CONTENTS OF SUPPLEMENT.

PERSONAL 41
Obituary 41
ENGINEERING SOCIETIES 41
Coming Technical Meetings 41
CONSTRUCTION NEWS:
Condensed List of Contracts Pending 42
Railways 43
Street and Electric Railways 44
Electric Light and Power 45
Bridges 45
Buildings 45
Water-Works 46
Irrigation 46
Sewerage 46
Garbage Disposal and Street Cleaning 46
Streets and Roads 46
Manufacturing Plants 47
Gas Plants 47
Miscellaneous Contracts 47
Contract Prices 48

PERSONAL.

Mr. John W. Payne has been appointed City Engineer of Akron, O.

Mr. Herschel Roberts, Deputy State Engineer and Surveyor of New York, has resigned.

Mr. Jas. L. Tighe has been appointed City Engineer of Holyoke, Mass., to succeed Mr. John J. Kirkpatrick.

Dr. Frank A. Woods has been appointed a member of the Board of Health of Holyoke, Mass., for the term of three years.

Mr. Thomas J. See, of Missouri, has been appointed by President McKinley as Professor of Mathematics in the United States Navy.

Mr. Geo. A. Morris, Resident State Engineer of the Middle Division of the New York State Canals, with headquarters in Syracuse, N. Y., has resigned.

Mr. Percy S. Hildreth, of the firm of R. W. Hildreth & Co., 32 Broadway, New York city, consulting and inspecting engineers, sailed for Havana, Cuba, Feb 8, on the steamer "Concho."

Mr. J. B. Hardie has been appointed Chief Engineer of the Steel Car Department of the Carnegie Steel Co., Pittsburg, Pa., which has just received an order for 2,000 steel freight cars from the Baltimore & Ohio R. R.

Messrs. Louis Duncan and M. K. Eyre have formed a partnership under the firm name of Duncan & Eyre, consulting engineers, with offices at Rooms 1514 and 1515, Empire Building, 71 Broadway, New York city.

Mr. Geo. A. Hamilton, M. Am. Inst. E. E., Chief Electrician of the Western Electric Co., 22 Thames St., New York city, sailed on the "St. Paul," Feb. 4, for England. He will also visit France, on business for the company.

Mr. S. H. Lea, M. Am. Soc. C. E., has associated himself with his brother, Mr. Sumter Lea, Jr., County Surveyor of Jefferson County, Alabama, for the general practice of civil engineering, with offices in the Court House, Birmingham, Ala.

Mr. Daniel Killion, of Philadelphia, Pa., formerly with the General Electric Co., Schenectady, N. Y., has been appointed Superintendent of the North Hudson Heat, Light & Power Co., Jersey City, N. J., to succeed Mr. A. K. Bonta, resigned.

Mr. Lincoln Bush has been appointed Acting Division Engineer of the Iowa Division of the Chicago & North-Western Ry., with headquarters at Boone, Ia., to succeed Mr. Hiram J. Slifer, who has been appointed Engineer of Second Track in Iowa.

Mr. Archibald A. Schenck, M. Am. Soc. C. E., of New Rochelle, N. Y., has been appointed Division Engineer of the Madison Division of the Chicago & North-Western Ry., with headquarters at Baraboo, Wis., to succeed Mr. J. P. Coleman, resigned.

Mr. Gurdon W. Merrell, Roadmaster of the Chicago Division of the Chicago, Milwaukee & St. Paul Ry., with headquarters in Chicago, Ill., has resigned to accept the position of Assistant to the General Superintendent of the Norfolk & Western Ry., with office in Roanoke, Va.

Mr. Charles Miller, Vice-President of the Toledo, St. Louis & Kansas City R. R., with headquarters in Franklin, Pa., has been elected President to succeed Mr. S. H. Kneeland, with offices in New York city. Mr. J. S. Bache has been elected Vice-President to succeed Mr. Miller.

Mr. Geo. L. Heins, of the firm of Heins & Lafarge, architects, of New York city, has been appointed Commissioner of the Capitol of New York by Governor Roosevelt, to succeed Mr. Isaac G. Perry, with offices in Albany. The office is virtually that of State Architect, and the salary is $7,500 a year.

Mr. Jeme Tien Yon has recently been appointed Resident Engineer of the Imperial Chinese Ry., in charge of the construction of the railway in the Chin Chow extension in Manchuria, China. He is a graduate of the Sheffield Scientific School of Yale University, New Haven, Conn., in the class of 1881.

Mr. Wm. W. Churchill, M. Am. Soc. M. E., who for the past nine years has been connected with Westinghouse, Church, Kerr & Co., 26 Cortlandt St., New York, has been promoted to be Mechanical Engineer. He graduated from Cornell University in 1889, and was the Sibley Fellow in Mechanical Engineering in that institution during the following year.

Mr. H. G. Hetzler, Roadmaster of the Chicago Division of the Chicago, Burlington & Quincy R. R., with headquarters in Chicago, Ill., has been appointed Superintendent of Freight Terminals to succeed Mr. F. A. Delano, whose appointment as Superintedent of Motive Power was noted in our last issue.

Mr. Irving T. Farnham, civil engineer, for a number of years Assistant Engineer in charge of boulevard and grade crossing work in Newton, Mass., has accepted the position of Principal Assistant to the Chief Engineer of the Massachusetts Highway Commission, with headquarters at 4 Mount Vernon St., Boston.

Mr. Fred. B. Corey, Jun. M. Am. Soc. M. E., Secretary and Mechanical Engineer of the Springfield Elevator and Pump Co., Springfield, Mass., has accepted the position of Mechanical Engineer with the Stilwell-Bierce & Smith-Vaile Co., Dayton, O., but will retain his official connection with the former company.

Mr. W. H. Truesdale, First Vice-President and General Manager of the Chicago, Rock Island & Pacific Ry., with headquarters in Chicago, Ill., has been selected by the Nominating Committee of the Board of Directors of the Delaware, Lackawanna & Western R. R., for election as President of the latter road to succeed Mr. Samuel Sloan, who retires on account of age and failing health, after 50 years' service.

Mr. Ignacio M. de Varona, M. Am. Soc. C. E., Engineer of Water Supply for the Borough of Brooklyn, New York, has obtained a leave of absence, and will return to his old home in Cuba, from which he has been a fugitive since the Ten Years' War. Mr. de Varona at that time commanded a body of troops, and narrowly escaped with his life after being captured in battle. He built the railway from Puerto Principe to Nuevitas before that time.

Mr. Henry J. Conant, Manager of the Boston, Mass., office of Westinghouse, Church, Kerr & Co., 26 Cortlandt St., New York, has been appointed to a more responsible executive position, but will continue to make Boston his headquarters. He graduated from the Massachusetts Institute of Technology in 1887, and has been with the above firm for a number of years, recently having had entire charge of the construction of the new Boston Terminal.

Mr. Elon H. Hooker, of Rochester, N. Y., has been appointed Deputy Superintendent of Public Works of New York, to succeed Mr. P. J. McWeeney, resigned. Mr. Hooker is a graduate of the University of Rochester, Rochester, N. Y., in 1891, and from Cornell University, Ithaca, N. Y., in 1894, as a civil engineer. In 1895 he was the Traveling Fellow of Cornell University, making a special study of hydraulics, and the next year was re-appointed in order to enable him to visit foreign canal and river works. He also studied in the Polytechnicum, Zurich, Switzerland, and in the Ecole des Ponts et Chaussees, Paris, France.

Mr. Jas. D. Layng, Second Vice-President and General Manager of the West Shore R. R., with headquarters in New York city, will retire from active service Aug. 1, 1899. He began his railway career in 1849 as a rodman in the engineer corps of the Ohio & Pennsylvania R. R., and from 1865 to 1871 was Superintendent of the Eastern Division of the Pittsburg, Fort Wayne & Chicago Ry. From 1874 to 1881 he was General Manager of the Pennsylvania Lines, and in the latter year became General Superintendent of the Chicago & North-Western Ry. He entered the service of the West Shore R. R. in 1884 as General Manager, and has held the office continuously ever since. After April 1, the management of the West Shore will be consolidated with that of the New York Central & Hudson River R. R.

OBITUARY.

Mr. John O. Ayers, Superintendent of the Water-Works of Portsmouth, N. H., died Feb. 2, aged 57.

Mr. Benj. H. Brown, architect, of St. Louis, Mo., died Jan. 30, aged 52. For three years past he had been Superintendent of Construction of the new City Hall in that city.

Mr. John Newham, Supervisor of the Erie R. R., of Newcastle, Pa., died Jan. 28, aged 75. He was a native of England and was formerly a railway contractor, having built the main line of the Erie R. R., from Salamanca, N. Y., to Corry, Pa., and a part of the Cleveland & Pittsburg R. R.

Mr. Leland D. Henshaw, Chief Engineer of the Mount Vernon Bridge Works, Mount Vernon, O., died at his home in that city, Jan. 21, of pneumonia. He was a graduate of Kansas University, and during his professional career had been connected with several bridge and structural companies in Pennsylvania, Maryland and Ohio.

Mr. William Laird, of the firm of Laird Bros., Birkenhead, England, shipbuilders, died Feb. 7. The firm, which has long been one of the foremost shipbuilding concerns in the world, was founded by the late John Laird, the father of Mr. William Laird, about 50 years ago, and during the Civil War built the Confederate war vessel "Alabama," which was completed in August, 1863.

Dr. Henry Elmo Keyes, chemist, and wife were both accidently asphyxiated by illuminating gas, Feb. 7, at Ardsley Casino, Ardsley-on-Hudson, N. Y. Dr. Keyes was born in San Francisco, Cal., 29 years ago, and was the son of the late Maj.-Gen. Erasmus D. Keyes. He was a graduate of the School of Mines of Columbia University, New York city, in which institution he was afterwards Instructor in Chemistry. He also studied chemistry in Heidelberg, Germany. Recently he had been in the employ of a large chemical manufacturing establishment in New York. Dr. Keyes and wife at the time of their deaths were the guests of Col. Eugene Griffin, of the First Regiment of Volunteer Engineers.

Mr. William Roberts Michle, Assoc. M. Am. Soc. C. E., until recently Assistant Engineer on the Pennsylvania R. R., with offices in Greensburg, Pa., died of pneumonia in the Memorial Hospital, Johnstown, Pa., Feb. 2. He was born in McDowell county, North Carolina, Sept. 22, 1866; his father being Prof. Peter L. Michie, of the United States Military Academy, West Point, N.Y.; and was graduated from the Thayer School of Civil Engineering of Dartmouth College, Hanover, N. H., in 1889. He began his railway service on the Pennsylvania R. R., in the engineering department in 1891, being located at Altoona, Pa. The following year he was promoted to Assistant Engineer, and among other work had charge of widening the roadbed on a portion of the Pittsburg Division and the construction of the Bolivar extension. In 1895 he was placed in charge of the construction of the Radebaugh Tunnel, which was completed two years later. He resigned his position Dec. 31, 1898, intending to go to Cuba, where his brother, Lieutenant Michie, was killed in the battle of San Juan, July 1 last.

ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

WISCONSIN STATE CHEMICAL ASSOCIATION.
Feb. 10. Secy., I. Ladoff, 154 Knapp St., Milwaukee, Wis.

ST. LOUIS RAILWAY CLUB.
Feb. 10. Secy., H. H. Roberts, 511 Commercial Bldg., St. Louis, Mo.

MONTANA SOCIETY OF ENGINEERS.
Feb. 11. Helena, Mont. Secy., A. S. Hovey, National Bank Bldg., Helena, Mont.

THE LOUISIANA ENGINEERING SOCIETY.
Feb. 13. Secy., J. F. Coleman, 712 Union St., New Orleans, La.

ENGINEERS' CLUB OF KANSAS CITY.
Feb. 13. Secy., F. W. Tuttle, Baird Bldg., Kansas City, Mo.

CIVIL ENGINEERS' CLUB OF CLEVELAND.
Feb. 14. Secy., Wm. H. Searles, Case Library Building, Cleveland.

DENVER SOCIETY OF CIVIL ENGINEERS.
Feb. 14. Secy., W. B. Lawson, 36 Jacobson Bldg., Denver, Colo.

NORTHWEST RAILWAY CLUB.
Feb. 14. Secy., T. A. Foque, Soo Line, Minneapolis, Minn.

NEW ENGLAND RAILWAY CLUB.
Feb. 14. Secy., Edw. L. Janes, P.O. Box 1158, Boston, Mass.

FRANKLIN INSTITUTE.
Feb. 14 "The Electrical Inspection of Street Car Equipments," Albert B. Herrick. Secy., Wm. H. Wahl, 15 South 7th St., Philadelphia, Pa.
Feb. 21. "Progress in the Utilization of Garbage," Dr. Bruno Terne; "A Process for Testing Metals," Joseph Richards.

NATIONAL SANITARY ASSOCIATION.
Feb. 15. Annual meeting, New York city. Secy., Thos. E. Veal, Atlanta, Ga.

BOSTON SOCIETY OF CIVIL ENGINEERS.
Feb. 15. Secy., S. E. Tinkham, City Hall, Boston, Mass.

WESTERN FOUNDRYMEN'S ASSOCIATION.
Feb. 15. Secy., B. M. Gardner, 1522 Monadnock Block, Chicago, Ill.

WESTERN SOCIETY OF ENGINEERS.
Feb. 15. Secy., N. L. Litten, Monadnock Block, Chicago, Ill.

ENGINEERS' CLUB OF ST. LOUIS.
Feb. 15. Secy., E. R. Fish, 2401 N. Spring Ave., St. Louis, Mo.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
Feb. 10. "Dry-Docks—Stone vs. Wood." Discussion.
Feb. 15. "The Approaches and Transportation Facilities of the Paris Exposition of 1900," E. L. Corthell. Secy., C. W. Hunt, 220 West 57th St., New York city.

AMERICAN PAPER AND PULP ASSOCIATION.
Feb. 15-16. Annual meeting, New York city. Secy., C. W. Lyman, Herkimer, N. Y.

NEW YORK RAILROAD CLUB.
Feb. 16. Secy., W. W. Wheatley, 168 Montague St., Brooklyn, N. Y.

ENGINEERS' CLUB OF CINCINNATI.
Feb. 16. Secy., J. F. Wilson, P. O. Box 333, Cincinnati, O.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.
Feb. 16. Secy., F. A. Charpiot, P. O. Box 13, Savannah, Ga.

CHICAGO ELECTRICAL ASSOCIATION.
Feb. 17. Secy., J. R. Cravath, 825 Monadnock Block, Chicago, Ill.

THE DETROIT ENGINEERING SOCIETY.
Feb. 17. Secy., Henry Goldmark, Wayne Co. Savings Bank Bldg., Detroit, Mich.

ROCHESTER ENGINEERING SOCIETY.
Feb. 17. Secy., John F. Skinner, Reynolds Library Bldg., Rochester, N. Y.

ENGINEERS' CLUB OF PHILADELPHIA.
Feb. 18. Secy., L. F. Rondinella, 1122 Girard St., Philadelphia, Pa.

ENGINEERS' AND ARCHITECTS' ASSOCIATION OF SOUTHERN CALIFORNIA.
Feb. 18. Secy., Frank Van Vleck, Currier Block, Los Angeles, Cal.

ENGINEERS' CLUB OF COLUMBUS.
Feb. 18. Secy., H. M. Gates, 12½ North High St., Columbus, O.

ENGINEERS' AND ARCHITECTS' CLUB OF LOUISVILLE.
Feb. 20. "The Nicaragua Canal." Secy., Marshall Morris, 16 Norton Bldg., Louisville, Ky.

TECHNICAL CLUB OF OMAHA.
Feb. 20. Secy., J. Harry Lawrie, Omaha, Neb.

ENGINEERS' CLUB OF MINNEAPOLIS.
Feb. 20. Secy., H. E. Smith, 1620 S. E. 14th St., Minneapolis, Minn.

WESTERN RAILWAY CLUB.
Feb. 21. Secy., F. M. Whyte, 225 Dearborn St., Chicago, Ill.

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA
Feb. 21. Secy., R. A. Fessenden, 410 Penn Ave., Pittsburg, Pa.

AMERICAN INSTITUTE OF MINING ENGINEERS.
Feb. 21-25. Annual meeting, New York city. Secy., R. W. Raymond, P. O. box 223, New York city.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS
Feb. 22. Secy., Ralph W. Pope, 26 Cortlandt St., New York city.

MICHIGAN GAS ASSOCIATION.
Feb. 22-23. Annual meeting, Lansing, Mich. Secy., Henry H. Hyde, Saginaw, Mich.
ENGINEERING ASSOCIATION OF THE SOUTH.
Feb. 23. Secy., C. B. Wilson, 100 Broad St., Nashville, Tenn.
CANADIAN SOCIETY OF CIVIL ENGINEERS.
Feb. 23. Secy., H. C. McLeod, 112 Mansfield St., Montreal, Que.
ASSOCIATION OF ONTARIO LAND SURVEYORS.
Feb. 28. Annual meeting, Toronto, Canada. Secy., A. J. Van Nostrand, Toronto, Canada.
BROOKLYN INSTITUTE OF ARTS AND SCIENCES.
Mar. 3. Secy., Henry I. Weed, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
TECHNICAL SOCIETY OF THE PACIFIC COAST.
Mar. 3. Secy., O. Von Geldern, 819 Market St., San Francisco, Cal.
ENGINEERING SOCIETY OF WESTERN NEW YORK.
Mar. 6. Secy., H. J. March, Library Bldg., Buffalo, N.Y.
CIVIL ENGINEERS' SOCIETY OF ST. PAUL.
Mar. 6. Secy., C. L. Annan, City Engineer's Office, St. Paul, Minn.
AMERICAN INSTITUTE OF ARCHITECTS (New York Chapter).
Mar. 8. Secy., Chas. I. Berg, 10 West 23d St., New York city.
BROOKLYN ENGINEERS' CLUB.
Mar. 9. Secy., A. J. Provost, Jr., 191 Montague St., Brooklyn, N. Y.

THE MICHIGAN GAS ASSOCIATION.—The 6th annual meeting of this association will be held at Lansing, Mich., on Jan. 22-23.

MANUFACTURERS' ASSOCIATION OF NEW YORK.—The 6th annual meeting and banquet of this association was held at the Union League Club, of Brooklyn, N. Y., on Feb. 1, with 300 present.

AMERICAN SOCIETY OF CIVIL ENGINEERS.—A special meeting of this society will be held at the Society House, New York city, on Feb. 10, at which the subject of "Dry-Docks—Stone vs. Wood" will be discussed. Wm. L. Cathcart, late Chief Engineer U. S. N., Commodore Geo. W. Melville, Engineer in Chief, U. S. N., Commodore M. T. Endicott, Chief of Bureau of Yards and Docks, and other officers will be present and take part in the discussion. Chas. Warren Hunt, Secy.

UNDERWRITERS' NATIONAL ELECTRIC ASSOCIATION.—The special committee of this association appointed to revise the rules and specifications relating to electric wires and construction work, held a meeting in Chicago on Jan. 9-11. Changes were made in rules pertaining to armored cables, slow-burning weather-proof wires, metal conduits with linings of insulating materials, unlined metal conduits and in the specifications for rubber covered wires.

NEW YORK ELECTRICAL SOCIETY.—The next meeting of this society will be held in New York at the station of the Electric Vehicle Co., 1684 Broadway, on Feb. 14. Mr. G. Herbert Condict, the electrical engineer, will give an informal talk on the "Status of Automobiles," after which the station will be inspected.

Each member proposing to be present will inform the secretary not later than Feb 11 of his intention, saying whether or not he will be accompanied by a lady. A special ticket of admission will be forwarded to the applicant, and no one will be admitted to the building without a ticket. George H. Guy, Secy.

AMERICAN INSTITUTE OF MINING ENGINEERS.—The 29th annual meeting of the Institute will be held in New York city, Feb. 21-25, as already announced in this column.

The following is the program:

Feb. 21, morning, headquarters open at Murray Hill Hotel; evening, 8 p. m., opening session at hall of the Am. Soc. of M. E., 12 West 31st St. "The Copper Queen Mine, Arizona," Mr. James Douglas; Feb. 22, morning and afternoon, visit to and session at Columbia University; evening, reception and dance at Sherry's; Feb. 23, morning, session at Am. Soc. of M. E. hall; afternoon, free for optional excursions; evening, session at Am. Soc. M. E. hall; Feb. 24, morning and afternoon, visit to mine and works of the New Jersey Zinc Co.; evening, optional; Feb. 25, optional excursions.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.—The 131st regular meeting of this society was held in New York city on Jan. 25. Mr. S. Dana Greene, of the General Electric Co., Schenectady, N. Y., presented a paper entitled "Electricity on Board Ship." This was an argument for the further adoption of electricity for the operation of auxiliary apparatus on vessels of both naval and merchant marine, based upon the performance of practical electrical apparatus during the recent war with Spain. The advantages of centralizing the generation of power, of transmitting it in a convenient, safe and comfortable form, and using it in efficient and reliable motors, was well pointed out. Range-finders, telephones and engine indicators were criticised and classed as unreliable when in action. On the other hand, motors, incandescent lamp and search lights were considered of the greatest value.

The extremely low efficiency and large coal consumption of the present forms of steam pumps, winch engines, etc., was brought out by tables showing the results of tests made on the cruiser "Minneapolis" on a run from Gibralter to New York. It was pointed out that anything that would reduce this large auxiliary coal consumption would permit the reduction in amount of coal carried, an increase in cruising range, more weight in machinery, armor or the like.

In the discussion which followed Mr. Elihu Thompson described a type of steam engine with which he had been experimenting. This had 4 cylinders, 2½ ins. in diameter, and a 3-in. stroke. With steam at 180 to 200 lbs., the engine gave 4 HP., and an economy of 20½ lbs. per horse power. Such engines could be used in connection with power and lighting plants on ship board to generate current at a very reasonable figure. The remarkable work of the electrically-controlled turrets on the "Brooklyn" was mentioned and the statement made that in one official trial the turret was started and stopped 37 times in one inch of peripheral movement.

The conclusion reached was that electric motors could, if properly designed, be installed and wired to do all the auxiliary work on ship board now so generally performed by wasteful steam engines.

FRANKLIN INSTITUTE.—At the meeting of the Institute held Feb. 3, Mr. F. H. Newell, Hydrographer of the U. S. Geological Survey, delivered the second of a series of lectures on the resources of the West, entitled "The Great Reservoirs Constructed for Water Conservation."

These have been built mainly within the mountains of the arid region, for the purpose of storing the flood waters for use during time of drought in the irrigation of the fertile valley lands. The dams which form these reservoirs have been constructed mainly by private or corporate enterprise, there being comparatively few reservoirs built by the states or the national government.

These structures have as a rule been successful from the engineering standpoint, and have made possible the utilization of great tracts of country formerly barren, but now covered with flourishing orchards and vineyards. Financially, however, they have been as a rule failures, owing partly to bad management. In a large way they have paid by making possible the tilling of the soil, the bringing in of a large population, resulting in increased values, but this increase has in few cases redounded to the benefit of the men who have risked their capital.

Most of the large reservoirs are in California, where through hydraulic mining great practical experience has been had in handling and controlling considerable bodies of water. The most notable structures are in the southern part of the state on the headwaters of streams whose channels extend to the Pacific Ocean, but in whose lower course little water flows except during times of flood. These streams come from high mountains upon which there is considerable precipitation owing to the fact that the land rises abruptly from the sea. Among the upper valleys suitable localities for storing water have been found and in part utilized. Great masonry structures have been built closing the outlets of these valleys, and thus holding back the water.

It is by no means a simple matter to plan and construct these dams, for there are many difficulties and dangers to be encountered. If the reservoir is on a main stream, ample provision must be made for passing the floods over or around the dam; otherwise it may be swept away, as has been the case with a number of structures, notably the Walnut Grove dam in southern Arizona. This was overtopped by a sudden flood, quickly swept away and many lives were lost and much property destroyed.

If the floods do not weaken the structure, they will, as a rule bring down great quantities of gravel and mud, which, accumulating in the reservoir, tend to fill it quickly. In the case of one reservoir, costing over $1,000,000, the reservoir has within four years been filled with sediment to ⅛ of its capacity. At the same rate it will be completely filled in eight years more.

On account of the difficulties and dangers incident to building reservoirs on the main stream, attempts are made as far as practicable to locate these storage works on side channels, bringing water to them by means of canals, flumes and tunnels, and thus controlling the amount of water and diverting most of the sediment. In a few cases dangers incident to ordinary reservoirs have been ingeniously avoided by placing these underground; that is, by constructing submerged dams across the gravel-filled valley of a large stream. A tight dam reaching to bed rock and extending out on each side intercepts the waters which percolate through the gravels, and permits this water to be controlled and drawn off at times when the bed of the river may be dry. The capacity of such a reservoir is of course limited to the aggregate of the spaces between the pebbles or grains of sand.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
Feb. 9.	Fireproof building,	San Antonio, Tex.	Feb. 2
Feb. 9.	Iron bridge,	Arcadia, Neb.	Feb. 2
Feb. 9.	Brick sewers,	Stockton, N. J.	Jan. 26
Feb. 9.	Electric plant,	Thibodeaux, La.	Jan. 26
Feb. 10.	Electric lighting,	York, Pa.	Jan. 19
Feb. 10.	Jail building,	Keyser, W. Va.	Sept. 20
Feb. 10.	Electric plant,	Matawan, N. J.	Feb. 2
Feb. 10.	Superstructure, etc.,	Walmer, Ont.	Feb. 2
Feb. 10.	Water pipe, etc.,	Minneapolis, Minn.	Feb. 2
Feb. 10.	Stone flagging,	Cleveland, O.	Feb. 2
Feb. 10.	Electric plant,	Boscobel, Wis.	Feb. 9
Feb. 11.	Levee work,	Newport, Ark.	Feb. 9
Feb. 11.	Outfall sewer,	Neenah, Wis.	Feb. 9
Feb. 11.	Court house,	Milwaukee, Wis.	Feb. 2
Feb. 11.	Heating and ventilating,	St. Louis, Mo.	Feb. 2
Feb. 11.	School building,	Algona, Ia.	Feb. 2
Feb. 11.	Grading and graveling,	Charleston, Ill.	Feb. 2
Feb. 11.	Wooden bridges,	York, Neb.	Jan. 19
Feb. 11.	School building,	Cleveland, O.	Jan. 26
Feb. 13.	Steel hull,	New Orleans, La.	Jan. 19
	Advertised, Eng. News, Jan. 19 to Feb. 2.		
Feb. 13.	Crane boat,	Charleston, W. Va.	Jan. 19
Feb. 13.	Water bonds,	Rena, Nev.	Dec. 22
Feb. 13.	Court house, Rock Springs,	Tex.	Jan. 12
Feb. 13.	Gasoline gas plant,	Osage, Okla.	Jan. 26
Feb. 13.	Ditch (75 miles),	New Madrid, Mo.	Feb. 2
Feb. 13.	Water pipe, etc.,	Hastings, Neb.	Feb. 2
Feb. 13.	Hospital building,	Birmingham, Ala.	Feb. 9
Feb. 14.	Park work,	Chicago, Ill.	Feb. 9
Feb. 14.	Paving, etc.,	Jersey City, N. J.	Feb. 9
Feb. 14.	Bulkhead work,	Savannah, Ga.	Feb. 9
	Advertised, Engineering News, Feb. 9.		
Feb. 14.	Wooden bridge,	Kansas City, Mo.	Feb. 9
Feb. 14.	Arc light carbons,	Chicago, Ill.	Feb. 9
Feb. 14.	Levee work,	Benton, La.	Feb. 9
Feb. 14.	School building,	New York, N. Y.	Feb. 2
Feb. 14.	Grading, etc.,	New York, N. Y.	Feb. 2
Feb. 14.	Electric wiring,	St. Albans, Vt.	Feb. 2
Feb. 14.	Electric wiring,	Pottsville, Pa.	Feb. 2
Feb. 14.	Electric wiring,	Akron, O.	Feb. 2
Feb. 14.	Sewer bonds,	Grass Valley, Cal.	Feb. 2
Feb. 14.	Brick paving, etc.,	St. Louis, Mo.	Feb. 2
Feb. 15.	Irrigation canal,	Albuquerque, N. Mex.	Jan. 19
	Advertised, Eng. News, Jan. 19 to Feb. 2.		
Feb. 15.	**Brick paving, etc.,**	**Cleveland, O.**	**Jan. 26**
Feb. 15.	School building,	Ironwood, Mich.	Feb. 2
Feb. 15.	Bridge metal,	Helena, Ark.	Feb. 2
Feb. 15.	Iron bridges (2),	Seneca, Kan.	Feb. 2
Feb. 15.	Water-works,	Tuskegee, Ala.	Feb. 2
	Advertised, Engineering News, Feb. 2.		
Feb. 15.	Electric plant,	Tuskegee, Ala.	Feb. 2
	Advertised, Engineering News, Feb. 2.		
Feb. 15.	Sinking a shaft,	Centralia, Pa.	Feb. 2
Feb. 15.	Lumber and nails,	Cuba.	Feb. 2
Feb. 15.	Electric plant,	Baltimore, Md.	Feb. 9
	Advertised, Engineering News, Feb. 9.		
Feb. 15.	Pipe sewers,	Buffalo, N. Y.	Feb. 9
Feb. 15.	Sewers,	New York, N. Y.	Feb. 9
Feb. 15.	Sewers,	Chicago, Ill.	Feb. 9
Feb. 15.	Laying water mains,	Chicago, Ill.	Feb. 9
Feb. 16.	Bridge to Blissville,	Brooklyn, N. Y.	Feb. 9
Feb. 16.	Concrete dam,	Columbus, O.	Feb. 9
	Advertised, Engineering News, Feb. 9.		
Feb. 16.	Laying water mains,	New York, N. Y.	Feb. 9
Feb. 16.	**Boat house and armory,**	**Annapolis, Md.**	**Jan. 26**
Feb. 16.	**Pier superstructure, etc.,**	**Duluth, Minn.**	**Jan. 19**
Feb. 16.	**Court house,**	**Buckhannon, W. Va.**	**Jan. 19**
Feb. 16.	**Swing bridges (2),**	**Alexandria, Egypt**	**Jan. 19**
Feb. 16.	**Electric installation,**	**Fort Point, Tex.**	**Jan. 19**
	Advertised, Eng. News, Jan. 19 to Feb. 16.		
Feb. 16.	**School building,**	**Ellendale, N. Dak.**	**Jan. 12**
Feb. 16.	**Macadamizing,**	**Decatur, Ind.**	**Jan. 12**
Feb. 17.	Light fixtures,	Savannah, Ga.	Feb. 9
Feb. 18.	Street grading, etc.,	Cleveland, O.	Feb. 9
Feb. 18.	Steel towers and end spans,	New York	Feb. 9
	Advertised, Engineering News, Feb. 9.		
Feb. 18.	**Water-works,**	**Spring Lake, N. J.**	**Jan. 26**
	Advertised, Eng. News, Jan. 26 and Feb. 2.		
Feb. 18.	Boiler house,	Philadelphia, Pa.	Feb. 2
Feb. 18.	Artesian well,	Fort Meade, S. Dak.	Feb. 2
Feb. 20.	Bridge,	Rockford, Ill.	Feb. 2
	Advertised, Engineering News, Feb. 2.		
Feb. 20.	Park work,	Boston, Mass.	Feb. 2
Feb. 20.	Steam plant,	St. Peter, Minn.	Feb. 2
Feb. 20.	Paving, etc.,	Anderson, Ind.	Feb. 2
Feb. 20.	Brick and asphalt paving,	Geneva, N. Y.	Feb. 2
	Advertised, Eng. News, Feb. 2 to 16.		
Feb. 20.	**Water-works,**	**Elkhart Lake, Wis.**	**Jan. 26**
Feb. 20.	**Lift bridge near Taylor St.,**	**Chicago, Ill.**	**Dec. 29**
	Advertised, Engineering News, Dec. 29.		
Feb. 20.	Stone heads,	Newark, N. J.	Jan. 19
	Advertised, Eng. News, Jan. 19 to Feb. 9.		
Feb. 20.	Buoys, etc.,	Tompkinsville (S.I.), N. Y.	Jan. 19
	Advertised, Eng. News, Jan. 19 and 26.		
Feb. 20.	Bridge abutments,	Boston, Mass.	Feb. 9
Feb. 20.	Boiler, repairing hull, etc.,	New York	Feb. 9
Feb. 20.	Valves, plugs, etc.,	Victoria, B.C.	Feb. 9
Feb. 20.	Electric power,	New York, N. Y.	Feb. 9
Feb. 20.	Sewers,	Albany, N. Y.	Feb. 9
Feb. 21.	Heating, plumbing, etc.,	Newport, R. I.	Feb. 9
Feb. 21.	Pile platform,	Boston, Mass.	Feb. 9
	Advertised, Eng. News, Feb. 9 and 16.		
Feb. 21.	Pumping plant,	Honolulu, H. I.	Jan. 12
	Advertised, Eng. News, Jan. 12 and 19.		
Feb. 21.	**Cement and stone,**	**Tybee Island, Ga.**	**Jan. 26**
	Advertised, Eng. News, Jan. 26 to Feb. 9.		
Feb. 21.	Macadam road,	Longport, N. J.	Feb. 2
	Advertised, Engineering News, Feb. 2.		
Feb. 22.	Brick paving (14 blocks),	Bedford, Ind.	Jan. 26
Feb. 22.	Jail building,	Alexandria, La.	Jan. 19
Feb. 23.	School building,	Pinedreau, S. Dak.	Feb. 2
Feb. 23.	Marble, iron work, etc.,	Detroit, Mich.	Feb. 9
Feb. 23.	Gun stocks,	Springfield, Mass.	Feb. 9
Feb. 23.	Heating, ventilating, etc.,	Nauss & City, Mo.	Feb. 9
	Advertised, Eng. News, Feb. 2 and 9.		
Feb. 23.	Brick paving, etc.,	Fulton, N. Y.	Feb. 9
Feb. 24.	Bridge,	Hamilton, O.	Feb. 2
Feb. 24.	Water department supplies,	Cleveland, O.	Feb. 2
Feb. 25.	Court house,	Douglass, Ga.	Dec. 29
Feb. 25.	Street work,	Cincinnati, O.	Jan. 26
Feb. 25.	School building,	Cleveland, O.	Feb. 9
Feb. 26.	Porcelain insulators,	Christiania, Norway	Jan. 19
Feb. 27.	Iron bridges (2),	Monticello, Mo.	Feb. 2
Feb. 27.	Brick paving,	Portsmouth, O.	Feb. 9
Feb. 28.	Gas plant,	Darlington, Okla. Ter.	Feb. 9
Feb. 28.	Pipe sewers,	Steelton, Pa.	Feb. 9
	Advertised, Eng. News, Feb. 9 to 23.		
Mar. 1.	Dust-cart designs,	London, England.	Jan. 5
Mar. 1.	Court house,	Arkadelphia, Ark.	Jan. 5
Mar. 1.	Railway and highway bridge,	Quebec, Que.	Jan. 12
	Advertised, Eng. News, Sept. 29 and Oct. 6.		
Mar. 1.	Electric lighting,	Spartanburg, S. C.	Jan. 26
Mar. 1.	Water pumps, etc.,	Bilbao, Spain.	Feb. 2
Mar. 1.	Paving bonds,	Bridgeport, O.	Feb. 2
Mar. 1.	Broken stone, etc.,	Fort Hamilton, N. Y.	Feb. 2
	Advertised, Eng. News, Feb. 2 to 23.		
Mar. 1.	Turbine,	Sault Ste. Marie, Mich.	Feb. 9
Mar. 1.	Sewers,	Mount Pleasant, Mich.	Feb. 9
Mar. 1.	Water-works,	Oto, Iowa.	Feb. 9
	Advertised, Eng. News, Feb. 9 and 16.		
Mar. 1.	Water-works,	Mount Pleasant, Mich.	Feb. 9
Mar. 1.	Laying water pipe,	Amsterdam, N. Y.	Feb. 9
	Advertised, Eng. News, Feb. 9 to 23.		
Mar. 1.	Road work (5 miles),	Batavia, O.	Feb. 9
Mar. 3.	Roads (10),	Bedford, Ind.	Feb. 9
Mar. 3.	Trunk sewer,	Cincinnati, O.	Feb. 9
Mar. 3.	Sewers,	Cleveland, O.	Feb. 9
Mar. 4.	Officers' quarters,	San Francisco, Cal.	Feb. 9
Mar. 4.	Quarrying stone, etc.,	Washington, D. C.	Feb. 9
	Advertised, Engineering News, Feb. 9.		
Mar. 4.	Brick paving, etc.,	Cleveland, O.	Feb. 9
Mar. 4.	Brick paving,	Washington, D. C.	Feb. 2
	Advertised, Engineering News, Feb. 2.		
Mar. 6.	Sewers,	Woonsocket, R. I.	Feb. 2
	Advertised, Eng. News, Feb. 2 and 9		
Mar. 6.	Iron flagstaffs (6),	St. Louis, Mo.	Feb. 9
Mar. 6.	Electric plant,	Fort Preble, Me.	Feb. 9
	Advertised, Eng. News, Feb. 9 to Mar. 2.		
Mar. 6.	School building,	Eau Claire, Wis.	Feb. 9
Mar. 7.	Street cleaning,	Cleveland, O.	Feb. 9
Mar. 7.	Water pipe,	Everett, Mass.	Feb. 9
	Advertised, Engineering News, Feb. 9.		
Mar. 7.	Asphalt paving,	Joplin, Mo.	Feb. 9
Mar. 8.	Wharf, Rock Point,	Md.	Feb. 9
	Advertised, Eng. News, Feb. 9 to Mar. 2.		
Mar. 8.	Water bonds,	McConnellsville, O.	Feb. 9
Mar. 9.	Bridge,	Shreveport, La.	Feb. 9
Mar. 11.	Reservoir,	Washington, D. C.	Feb. 9
	Advertised, Engineering News, Feb. 9.		

Mar. 11. Road work, Woodbury, N. J. ..... Feb. 9
Advertised, Eng. News, Feb. 9 and 16.
Mar. 12. Electric light plant, Manlius, N. Y. ..... Jan. 12
Mar. 14. Drainage ditch, Ponca, Neb. ..... Feb. 9
Mar. 14. Wooden bridges, Loup, Neb. ..... Feb. 9
Mar. 15. Water-works, Fayetteville, Tenn. ..... Feb. 9
Advertised, Eng. News, Feb. 9 and 16.
Mar. 15. Barracks, etc., San Francisco, Cal. ..... Feb. 9
Mar. 15. Purchase of water-works, Belem, Brazil ... Dec. 1
Mar. 15. Electric r'y (23 miles), Shanghai, China .. Nov. 24
Advertised, Eng. News, Nov. 17 to Dec. 8.
Mar. 15. Bridges (3), Joliet, Ill. ..... Jan. 19
Advertised, Engineering News, Jan. 19.
Mar. 15. Court house plans, Wilkesbarre, Pa. ..... Jan. 26
Mar. 27. Court house plans, Leesville, La. ..... Jan. 26
Mar. 31. Telephone concessions, Shanghai, China .. Nov. 24
Advertised, Eng. News, Nov. 17 to Dec. 8.
Apr. 1. Viaduct substructure, St. Joseph, Mo. .... Jan. 5
Apr. 1. Opera house, Columbus, Ga. ..... Jan. 19
Apr. 3. Pumps (2), Winnipeg, Man. ..... Feb. 9
Apr. 4. Sewerage system, Clayton, N. Y. ..... Feb. 2
Apr. 6. Dredging boat, Sabine Pass, Tex. ..... Feb. 9
Apr. 14. Hall building, Bradford, England ..... Jan. 19
No date. Capitol building, Phoenix, Ariz. ..... Feb. 9
" .Railroad (40 miles), Ft. Dodge, Ia. ..... Feb. 2
Advertised, Engineering News, Feb. 2.

RAILWAYS.

ARLINGTON & BLUFFTON.—J. A. Maxwell, Arlington, Ga., informs us that this company has not yet been organized, and that nothing further has been done than to apply for a charter. It is a local enterprise, having in view the construction of a steam railway between Arlington and Bluffton, 11 miles.

ATCHISON, TOPEKA & SANTA FE.—Reports state that this company will soon build a cut-off between a point on the Pecos Valley R. R. extension, about 20 miles east of Fort Sumner, in Guadaloupe county, N. Mex., west to the Santa Fe Pacific, at Isleta Junction, 180 miles. This will send all of the transcontinental traffic over the lines southwest from Newton, Kan., to Amarillo, Tex., and directly west over the new route to Isleta Junction, thus saving 250 miles and the heavy Raton and Glorietta range climbs.

BALTIMORE & OHIO SOUTHWESTERN.—We are informed that the rehabilitation of this railway will begin as soon as the frost is out of the ground. Just before the line went into the hands of Receivers Harmon and Robinson a large quantity of material was purchased, and this will be delivered immediately for use. About 40,000 tons of 85-lb. steel rails have been purchased, and enough will be on hand on March 1 to enable track-laying to begin at five different points. Each mile of track will be carefully reballasted and placed in first-class condition, and 101,000 pairs of continuous rail-joints will be used. The 2,000 standard box cars and 500 steel coal cars recently ordered will be delivered in March. Forty compound freight engines, weighing 156,000 lbs., and five 10-wheel compound passenger engines, weighing 125,000 lbs., are now being built by the Baldwin Locomotive Works. D. D. Carothers, Engrs., Cincinnati, O.

BOISE, NAMPA & OWYHEE.—It is announced that this line will be extended this year from its present terminus at Guffey, Idaho, south 10 miles through an agricultural and mining region to Striker Springs and north 60 miles from Nampa through a grazing and timber district towards the Seven Devils mining lands. Surveys have been made and work is expected to begin about May 1. J. M. Clark, Ch. Engr., Nampa, Idaho.

CHOCTAW & MEMPHIS.—F. A. Molitor, Ch. Engr., informs us that the iron superstructure for this company's line, now under construction between Little Rock, Ark., and Howe, Ind. Ter., has been awarded to the Pennsylvania Steel Co., Steelton, Pa. The contract covers over 2,000,000 lbs.

COLUMBUS, WELLSTON & SOUTHERN.—This company was incorporated Jan. 31 with a capital stock of $2,000,000, to build and operate a line between Columbus and Wellston, about 70 miles, through the coal fields of Hocking Valley. Among the incorporators are W. H. Stevenson and J. G. Reeves, of Lancaster, O., both officers of the Columbus, Lancaster & Wellston Ry., 23 miles in length.

DENVER & RIO GRANDE.—Clough & Anderson, of Colorado Springs, write us from La Veta, Colo., that their contract with this company is for the construction of 23 miles of new roadbed, from La Veta to Placer. Dirt is now flying on three miles of the survey. Three tunnels from 300 to 600 ft. in length will be built, and the work will be very heavy, mostly of rock. About 500 men are on the work now, and it is expected soon to have from 1,000 to 1,500. Other official information may be found in our last issue. M. H. Rogers, Ch. Engr., Denver, Colo.

DUCHESNE.—Wm. F. Colton, Treas., Salt Lake City, Utah, informs us that about 15 miles of surveys have been made for this proposed line from Colton to Duchesne, Utah, 52 miles. C. W. Bennett, Pres. Salt Lake City, Utah.

EASTERN ILLINOIS & MISSOURI.—This company has been incoroporated in Illinois, with a capital stock of $50,000, to build a railway from Cape Girardeau, Mo., on to Marion, Ill., 50 miles. The new line will be a connection of the Chicago & Eastern Illinois and the St. Louis Southwestern, or Cotton-Belt Line, to give the latter entrance into Chicago and enable it to reach St. Louis over the Mobile & Ohio R. R. The incorporators are connected with the Chicago & Eastern Illinois R. R. Co.

FITCHBURG.—The Schenectady Locomotive Works, Schenectady, N. Y., is stated to have received a contract for building six 12-wheel 160,000-lb. freight engines, and two 10-wheel passenger carriers. This company has also added considerably to its rolling stock.

HANNIBAL & QUINCY.—Incorporated in Illinois with a capital stock of $125,000, to build and operate a line from East Hannibal to Quincy, Ill., via Pike and Adams counties. Among the incorporators are Ossian D. Ashley and John C. Otteson, New York; Joseph Ramsey, Jr., and W. H. Blodgett, St. Louis, Mo., all officials of the Wabash R. R. Co.

INDIA.—Anyone prepared to construct and equip a narrow-gage railway will be interested in the following extract from a letter from Hindostan: "I intend opening a two-foot railway in one of my estates. I hear America is the best market; therefore, will you kindly ask some of your friends to send me prospectuses of constructions of this character. The total length of track will be 150 miles." We are informed on the best authority that the writer is a wealthy rajah, with large estates in the Deccan; that he holds high office under the Nizam and is a progressive and enlightened Hindoo, very desirous of improving his country. We are not at liberty to publish further information, but any communication bearing on the subject may be sent to the office of the Engineering News and will be forwarded promptly.

LAUREL & NORTHWESTERN.—We are informed that S. W. Gardiner, Laurel, Miss., is president and not chief engineer of this company, which is now locating a line from Laurel to Leaf River, 20 miles. Arthur J. Cox, Ch. Engr., Laurel.

LOGANSVILLE & NARROWS PRAIRIE.—This company has been incorporated in Wisconsin to construct a standard-gage line from Logansville northwesterly to the Chicago & Northwestern Ry., at Ableman, Wis., about 16 miles. D. B. Hulbert, Pres.; H. L. Hulbert, Secy.; E. F. Dithmar, Treas.

MASSACHUSETTS.—The board of aldermen of Boston has passed an order directing the city engineer to prepare plans and estimates of the cost of such alterations of all the crossings of the railways and public ways in East Boston as will avoid crossings at grade.—Reports state that the Boston & Maine R. R. Co. has completed the preliminary plans for the abolition of grade crossings in Chicopee. Bids will be asked when details have been decided upon, so as to begin the work, if possible, in the spring.—The city council of Worcester has authorized the mayor to appoint a commission, consisting of two disinterested engineers, to consider, with the city engineer, both the depressed and the elevated track plans for the abolition of railway grade crossings.

MIDDLEBROOK.—This company was incorporated in New Jersey, with a capital stock of $50,000, to construct 1¼ miles of line near Bound Brook, N. J. The incorporators are: J. R. Maxwell, Brooklyn, N. Y.; Stephen M. Williams, Roselle, N. J.; Robt. W. De Forest, New York; Samuel Knox, Elizabeth, N. J.; Hiram P. Baldwin, Roselle, N. J.; Geo. O. Waterman, Red Bank, N. J.

MINNEAPOLIS & ST. LOUIS.—Reports state that this company will extend its line this season from New Ulm, Minn., about 150 miles, into Iowa, with a possible extension later on to Omaha, Neb., 100 miles further. L. F. Day, Gen. Mgr., Minneapolis, Minn.

MISSOURI MIDLAND.—Robert Moore, Ch. Engr., St. Louis, Mo., informs us that the preliminary surveys for this proposed line from Columbia to Huntsdale, Mo., on the Missouri, Kansas & Texas Ry., 8½ miles, have been made. Considerable rock work and embankment, it is said, will be required. Several bridges will be built. Charles Wiggins, Pres., Bank of Commerce Bldg., St. Louis.

MONTEREY & FRESNO.—Reports state that the California Construction Co. will soon begin the construction of this line from Monterey to Hollister, Cal., 45 miles. It is expected to build later to Fresno, about 100 miles further east. H. A. Greene, Gen. Mgr.; P. P. Dandrige, Ch. Engr., both of Monterey, Cal.

NORFOLK & WESTERN.—This company is said to have awarded the contract for building about 4¼ miles of new track near Christianburg, Va., to L. H. Vaughan & Co., Roanoke, Va.

OTTAWA & GATINEAU.—This company proposes to extend its lines during the coming season from Gracefield to Maniwaki, Que., 28 miles. G. C. Dunn, Ch. Engr., Ottawa, Ont.

PENSACOLA & NORTHWESTERN.—S. N. Van Praag, Pres., Pensacola, Fla., informs us that a bill has been introduced into Congress granting to this company the right to cross the Alabama, Warrior, Sipsey and Tennessee rivers. Grading will be started as soon as bill has passed, and the right to go through the naval and military reservations granted. As stated in our issue of Jan. 26, the route is from Demopolis to Eutaw, Ala., 432 miles.

PORTSMOUTH & OHIO.—This company has been incorporated in Ohio with a capital stock of $30,000, to build a railway from Wharton, O., on the Cincinnati, Portsmouth & Virginia Ry., to the stone quarries of Reitz & Co., on Carey's Run, in Scioto county. The incorporators are: Ignatius Reitz, Albert J. Reitz, Henry Bannon, Geo. E. Knicker and William Turner.

RIO GRANDE WESTERN.—A. E. Gibson, Chn. County Comrs., Cleveland, Utah, informs us that the construction of a branch line from Wellington to Castle Dale, via Cleveland and Huntington, Utah, is being agitated, but that no action has yet been taken by the company. This is the most direct route to the Pacific coast for the Rio Grande Western, and it would also open up rich coal fields. The officials are thought to be considering the project favorably.

ST. LOUIS, POMONA & SOUTHERN.—The International Construction & Improvement Co., Jesse French, Pres., St. Louis, Mo., is stated to have received the contract for building this proposed line from St. Louis to Fort Smith, Ark. Preliminary surveys and locations are now being made. It is expected to construct the line between Pomona and Fort Smith, 170 miles, at first, and then the northern extension. H. D. Mackay, Pres., Pomona, Mo.

SANTA ANA & NEWPORT.—Reports state that this company has obtained the right of way from Smeltzer's Station to Westminster, Cal., through an agricultural district, and that an extension will probably be built. S. H. Finley, Ch. Engr., Santa Ana, Cal.; J. Ross Clark, Vice-Pres., of Los Alimetos Sugar Co., is also reported to have purchased this system.

SOUTHERN ALABAMA.—This company was incorporated in Alabama Jan. 27, with a capital stock of $50,000, by J. M. Falkner, Montgomery, Ala.; E. L. Moore, Nashville, Tenn.; H. Smith, H. W. Bruce, C. Quarrier, W. W. Thompson, J. H. Ringgold, Louisville, Ky. R. Montfort, Ch. Engr., of Louisville & Nashville R. R., Louisville, Ky., informs us that the contract is held by R. M. Quigley & Co., Georgiana, Ala., and St. Louis, Mo. The contractors have asked for bids until Feb. 6 for grading, timber work and tunnel on 45 miles, which they will sublet. The new line will run from Pineapple to Repton, Ala., and will close up a gap in the Louisville & Nashville R. R. E. L. Moore, Pres., Georgiana, Ala.

SOUTHERN INDIANA.—J. R. Walsh, Pres., 185 Dearborn St., Chicago, Ill., informs us that nothing has been decided as yet with reference to the proposed extension from Greensburg to Richmond, Ind., about 50 miles.

TENNESSEE CENTRAL.—Naugle, Holcomb & Co., 355 Dearborn St., Chicago, Ill., general contractors, are reported to have sublet the contract for constructing the portion of this line from the tunnel to Emory Gap, 13 miles. The balance will be built as soon as the engineers, now in the field, are ready. G. T. Bigelow, Ch. Engr., Rockwood, Tenn.

TRAIL & SALMON RIVER.—Frank Moberly, Ch. Engr., Rossland, B. C., informs us that the proposed construction of this line has been postponed until the meeting of the next legislature, in about one year.

VAN BUREN & CARIBOU.—Peter C. Keegan, Caribou, Me.; Allen E. Hammond, Van Buren, Me., and others have introduced a bill in the legislature of Maine for a charter for this proposed standard-gage line from Caribou to Van Buren, about 25 miles. It is desired to secure the bonus of $4,000 a mile, which Aroostock county voted some years ago to give the Bangor & Aroostock R. R. Co., provided such a line be built.

WATONWAN VALLEY.—W. A. Scott, Pres., St. Paul, Minn., informs us that surveys have been completed for this proposed line from Madelia, Minn., to the Iowa state line, via Fairmount, about 20 miles. C. W. Johnson, Ch. Engr., St. Paul.

WEST VIRGINIA & PITTSBURG.—We are informed that this line will be extended from its southern terminus at Camden to Gauley, W. Va., nine miles south to a point near the mouth of the Cherry River. The contract for grading has been let to Joseph Fucey, Weston, W. Va., and work will be begun at once. A. H. Kunst, Gen. Mgr., Weston.

STREET AND ELECTRIC RAILWAYS.

BLUEHILL, ME.—A bill is to be introduced into the state legislature for the incorporation of the Bluehill & Bucksport R. R. Co., to have a capital stock of about $250,000, to build a street railway from Bluehill to Bucksport, via Penobscot and Orland, about 18 miles. Rufus P. Grindle, Bluehill; Merrill P. Hinckley and others are interested.

NEWHALL, ME.—Flavius O. Beal, Bangor, Me., is said to be the promotor of a new electric line to be built between Newhall on the Maine Central R. R., to Naples. R. D. Woodman, of Westbrook, is also said to be interested in the construction of a rival line, which would extend to Westbrook.

GEORGETOWN, MASS.—The Georgetown, Rowley & Ipswich St. Ry. Co. has been organized, with a capital stock of $180,000, to build 18 miles of street railway. The incorporators are: C. E. Barnes, 53 State St., Boston; Edmund B. Fuller, Haverhill, Mass., and others.

MAGNOLIA, MASS.—The Magnolia St. Ry. Co. has been organized, with a proposed capital of $60,000, to connect Gloucester and Magnolia by a street car line. Wm. B. Ferguson, Malden, Mass.; A. D. Bossum, Chelsea, Mass., and D. S. Presson, of Gloucester, are directors.

PALMER, MASS.—The Palmer & Monson St. Ry. Co. is contemplating the extension of its line from Forest Lake to Ware, and from Palmer to Monson, 10 miles. Chas. F. Grosvenor, Pres.

WAYLAND, MASS.—At a hearing in this town, Jan. 28, the petition of the Natick & Cochituate St. R. R. Co. for permission to build to Wayland Centre was favorably acted upon.

WHITINSVILLE, MASS.—A street railway company has been formed here, with a capital stock of $12,000, to operate an electric line between Whitin's station and Whitinsville. It is expected that the new line will form a connection with the Blackstone Valley road and open up a section of territory which heretofore has been dependent upon stage lines. The directors are: G. W. Whitin, J. M. Lasell, Chester W. Lasell, C. A. Taft, William L. Taft, W. E. Johnson and Robert K. Brown.

JAMESTOWN, R. I.—A petition has been received by the council from N. S. Littlefield and J. P. Kohler asking for a franchise to build a street railway on Narragansett Ave., the street connecting the two ferries.

SHELTON, CONN.—C. W. Blakeslee & Sons, New Haven, Conn., are said to have been awarded the contract for the construction of a street railway between Shelton and Stratford.

WOODBURY, CONN.—The Woodbury & Southbury Electric Ry. Co. has been organized in Woodbury with the following directors: James Huntington, Pres.; E. S. Boyd, Secy. and Treas.; J. S. Bradley, W. M. Anthony and F. C. Boyd. The capital stock is $50,000, and the line is expected to run from Woodbury through Southbury to Waterbury, and later perhaps to Westville to connect with the New Haven street cars.

NEW YORK, N. Y.—The Manhattan Elevated Ry. Co. has definitely announced its intention to install a system of electric motive power on its entire system.

ROCHESTER, N. Y.—T. J. Nicholl, Pres. of Rochester & Sodus Bay R. R. Co., 267 State St., Rochester, informs us that 90% of the right of way has been obtained for this proposed electric line to Sodus Point, 38.4 miles distant. Bids for construction will not be received for some time yet. Le Grand Brown, Ch. Engr., Rochester.—W. Caryl Ely, Pres. of Buffalo & Niagara Falls Electric Ry. Co., North Tonawanda, is reported to be interested in a project to connect Rochester and Toronto, Ont., by an electric railway system.

BRIDGETON, N. J.—The Lawrence township committee passed an ordinance, Feb. 1, granting a franchise to the Bridgeton & Millville Trolley Co. to extend its tracks to Cedarville.

PRINCETON, N. J.—The New England Electric Railroad Construction Co., Worcester, Mass., has been awarded the contract for building the electric railway between Princeton and Trenton for the Princeton & Trenton Traction Co. The line will be about 12 miles in length, and will be equipped for handling both passengers and freight. It is intended to make it a model road. E. E. Carpenter, Gen. Mgr.; Harry F. Lincoln, Engr. of the Construction Co.

ALLENPORT, PA.—The Charleroi & Westside St. Ry. Co. was incorporated, with a capital stock of $20,000, Feb. 6, to build an electric line between Allenport and Speers Borough, Washington county. The incorporators are: Chas. F. Thompson, Pres.; J. S. Eberman and Wm. R. McKean, all of Charleroi, Pa.; Wm. W. Bell, Pittsburg.

BETHLEHEM, PA.—The Bethlehem & Nazareth Ry. Co. was incorporated with a capital stock of $6,000, Feb. 6, to build an electric street railway from Bethlehem to Nazareth. The incorporators are: Jos. J. McKee, Pres.; Felix W. Leinbeck and Alvin Hill, all of Bethlehem; Andrew S. Keck, Allentown; Mark T. Schwartz, Nazareth

NAZARETH, PA.—The Nazareth Transit Co. was incorporated, Feb. 1, by Wm. J. Daub, Pres., Easton, Pa.; Jacob H. Holt, Nazareth, and others, with $48,000 capital, to build an electric line between Easton and Nazareth.

WASHINGTON, D. C.—The commissioners have granted the Capital Traction Co. permission to replace the Love system of underground propulsion on U St. with the system used throughout the city, extending it to the Cincinnati St. bridge over Rock Creek, about two miles. Work will be commenced as soon as the weather permits.

HAGERSTOWN, MD.—Douglass Bros., Millerstown, Pa., inform us that a surveying party under C. McC. Lemley, Engr., Washington, Alexander & Mount Vernon Ry., is now ascertaining grades over the mountain and probable cost of construction of a 13-mile line of electric railway from Hagerstown, via either Funkstown and Smoketown or Beaver Creek and Smoketown to Myersville, with a connection with the Myersville & Catoctin Electric Ry., now operated by the Frederick & Middletown Electric Ry. Co., and which will provide direct communication between Hagerstown and Frederick, 26 miles.

PORTSMOUTH, VA.—The Portsmouth & Smithfield R. R. Co. has been organized to build 35 miles of electric railway. H. L. Maynard, Pres.; Col. C. Fenton Day, Vice-Pres., Smithfield, Va.

HUNTINGTON, W. VA.—The Huntington Connecting Ry. has been incorporated with a capital stock of $50,000, to build a street railway in this town. E. E. Canda, New York; Ely Ensign and W. H. Banks, Huntington.

CLEVELAND, O.—W. C. Jones, Ch. Engr. of Cleveland & Eastern R. R. Co. 710 New England Bldg., Cleveland, informs us that eight miles of grading have been completed on this proposed line from Cleveland to Burton, via South Euclid, Gates Mill, Chestertown, Fullertown, Munson and Chardon, 36 miles. Contracts have still to be let for all the track-laying, ballasting, power house, engines, cars and overhead materials, except poles, electric locomotives, etc. H. P. McIntosh, Pres. Guardian Trust Co.; H. Clark Ford, Chn. of Construction Com.——W. H. Ford, Cleveland, has been granted a franchise to build a street car line on the Shunpike road. Work must begin before July 1.

IRVINGTON, IND.—The commissioners of Marion county have granted a franchise to the Indianapolis, Greenfield & Eastern R. R. Co. to build on the National Road from Irvington to Hancock county. Work to begin before Sept. 1. Chas. M. Cooper, Indianapolis, is interested.

KALAMAZOO, MICH.—A. D. Prosser, Detroit, Mich., has petitioned the council for a franchise allowing the Grand Rapids & Kalamazoo Electric Ry. Co. to enter the city. The projected length of complete line is 55 miles.

HARVARD WIS.—The Chicago, Harvard & Geneva Lake R. R. Co. has been incorporated, with $50,000 capital stock, to build an electric line from Harvard to the Wisconsin summer resort lakes near Lake Geneva. The incorporators are: C. T. Bundy, Eau Claire, Wis.; L. C. Church, Walworth, Wis. Reports state that the Continental Construction Co., Boston, Mass., has received the contract for the entire construction work, and that it will sublet the contract for the power house and car barn. The generators and motors will be furnished by the General Electric Co., Chicago, and the rails by the Illinois Steel Co.

SIOUX CITY, IA.—Reports state that D. M. Robbins, St. Paul, Minn., has sold the elevated railway in this city to the Sioux City Transit Co., composed of A. M. Jackson, Pres.; A. D. Wilson D. M. Robbins and others. The road runs from the Union Depot for a distance of about four miles to Morning Side, a suburb. About a mile of the track is elevated, and it is proposed to tear down about four blocks of this and spend the money obtained from the sale of the iron work for new equipment.

FRESNO, CAL.—S. N. Griffith is interested in the proposed construction of an electric railway in Fresno.

CAIRO, EGYPT.—The Westinghouse Electric & Mfg. Co., Pittsburg, Pa., has received an order for the equipment of 14 trolley cars of the ordinary type for use in this city.

ELECTRIC LIGHT AND POWER.

FORT PREBLE, ME.—Bids are asked until March 6 for furnishing and setting up an electric light plant at Fort Preble, as stated in our advertising columns. Maj. S. W. Roessler, U. S. Engr., Portland, Me.

HOUSATONIC, MASS.—Chas. E. Collender is reported as making efforts to secure subscriptions for lights from the proposed plant at the Glendale water power.

LOWELL, MASS.—The control of the Lowell Electric Light Co. has been secured by Boston capitalists, headed by Stone & Webster, Archs. and Engrs., 4 Post Office Square, Boston.

AUBURN, N. Y.—E. H. Heuling, Cy. Clk., writes us that the city is not taking steps to build a plant. It is simply trying to have the charter amended, so that it may vote on the question of municipal ownership of any plant or for an extraordinary expenditure without going to the legislature each time.

NEW YORK, N. Y.—Bids are asked until Feb. 20 for furnishing the electric current necessary to supply the lights of the city prison for 1899. F. J. Lantry, Comr.

PORT JERVIS, N. Y.—The contract will soon be let for the addition to the power plant of the Port Jervis Light & Power Co., according to reports.

RENSSELAER, N. Y.—The capital stock of the Kinderhook Light & Power Co. will be increased to $2,000,000, according to reports. The company has secured the rights along the Kinderhook Creek, including a water fall, for which it is said $125,000 was paid. James Purcell, Valatia, N. Y., is interested.

HOBOKEN, N. J.—Reports state that A. K. Bonta, formerly Mgr. North Hudson Electric Co., will organize a new company with a capital stock of $300,000, to build a plant to furnish light and power to this city and North Hudson county towns. The Hoboken Land & Improvement Co. is interested in the organization of the new company. There is a possibility that the new concern will furnish the electricity for the operation of the Hoboken R. R. Warehouse & Steamship Connecting Co., a freight trolley line running along the river front.

WESTFIELD, N. J.—C. W. Hanlen, Township Committeeman, writes us that the committee wants to find out if the people are in favor of the town owning its plant, as it is stated that the present rates are high.

DORRANCETON, PA.—Councilmen Johnson, Weller and Froehlich have been appointed a committee to secure information for a plant.

PHILADELPHIA, PA.—Frank M. Riter, Dir. Dept. Pub. Safety, has submitted a report on the cost and maintenance of a municipal plant for 2,000 arc lights capacity. The whole expense that would be entailed by the erection of the plant suggested would be $1,037,627. The city owns a lot on 24th St., above Chestnut, upon which the plant could be erected, and also owns a lot of poles, pipes, cables, etc., which are valued at $335,564, which would reduce the cost to that extent and make it necessary to appropriate $702,063. The cost of maintenance would be $100.02½ per lamp a year, which is about $70 less per lamp than the city is now paying.

NEWHOPE, PA.—The question of electric lighting is being considered, according to reports.

BALTIMORE, MD.—Bids are asked until Feb. 15 for furnishing and installing a plant at the Mount Royal Pumping station, as stated in our advertising columns. Wm. L. Kenly, Ch. Engr. Water Dd.

FORT MONROE, VA.—We are informed that the following bids were received Jan. 24 for furnishing the government works with four storage batteries, as advertised in Engineering News; (1) 3 non-portable and 1 portable; (2) wiring, lamps, etc.:

	1.	2.
Electric Storage Battery Co., Philadelphia	$4,392	....
McCay Engineering Co., Baltimore, Md.	4,345	$1,239
Brown Elec. Const'n Co., New Haven, Conn.	4,300	989
H. W. & H. G. Smith, Norfolk, Va.	....	1,140
N. J. Foundry & Machine Co., New York	*6,715	....
Ingsbury Sam'l & Co., Baltimore, Md.	4,243	1,512
K. E. Drew, Manchester, N. H.	4,373	....

*Including wiring, lamps, etc.

GREENWOOD DEPOT, VA.—It is proposed by the directors to build a power plant for the use of the Miller Manual School, near this place. Professor Vawter, Principal, may be addressed.

LYNCHBURG, VA.—Propositions are asked by the board of electrical control until Feb. 10 for preparing plans for the proposed electrical plant.

NEW LONDON, N. C.—A company is reported to have been organized by Col. E. B. C. Hambley, Oxford, N. C.; J. S. Henderson, Salisbury, N. C., and others from New York, to build a power plant on the Yadkin River, to cost about $1,000,000. J. Pierpont Morgan, Broad and Wall Sts., New York, is said to be interested.

MACON, GA.—Benj. L. Jones, Macon, writes us that it is proposed to build a power plant on the Ocmulgee River, about 7 miles from here, sufficient to operate all the factories, machine shops and street car lines, and to light the city. G. L. Patrick, Engr. and owner.

ROME, GA.—A committee, consisting of D. B. Hamilton, Jr., Chn.; Frank Kane and B. T. Haynes, has been appointed to investigate the question of municipal ownership. It is thought that a plant of 100-arc light capacity can be built for $10,000. The power will be furnished from the water-works pumping station.——H. M. Smith, Cy. Engr., writes us that he is investigating the cost of a plant, with a view to the city constructing the same.

SAVANNAH, GA.—Bids are asked until Feb. 17 for furnishing and placing certain combination gas and electric light fixtures in the public building in this city. W. B. Howell, Asst. Secy. Treasury Dept., Washington, D. C.

LAFAYETTE, ALA.—The legislature has been asked to grant this place authority to issue $20,000 in bonds for a plant and water-works.

BLOOMVILLE, O.—J. F. Walker, Mayor, writes us that this place on Jan. 30 voted 51 in favor of a plant and 101 against it.

CINCINNATI, O.—Collector Voight, Custodian of the Federal Building, has asked the U. S. government to build a new plant for the Federal Building, to cost about $35,000.

COLUMBUS, O.—Local papers state that the plant of the Columbus Electric Light Co. will be greatly improved and extended. A. P. Lathrop, Pres., and W. F. Kelly are in the east for the purpose of buying the machinery.

WEST UNION, O.—H. S. Erimes, Portsmouth, O., has applied for a 25-year franchise.

BOURBON, IND.—The Western Engineering & Construction Co., J. P. Dales, Agent, 459 Irving Ave., Chicago, Ill., submitted the lowest bid Jan. 25 for constructing a plant and water-works at $25,220.

EVANSVILLE, IND.—An engineer will be engaged at once to prepare plans for a plant of about 500 arc lights capacity; estimated cost, $60,000. Michael Gorman, Pres.

FRANKLIN, IND.—The franchise of the Franklin Water, Light & Power Co., for public lighting, it is stated, expires next year, and there has already been applications made for franchises from other parties.

GRAND RAPIDS, MICH.—We are informed that the following bids were received Feb. 3 for constructing the electric lighting station; all bidders of Grand Rapids: Hauser, Hayden & Owen (accepted), $35,992; C. F. W. Gentz, $37,366; Campbell & McNabb, $38,316; Charles Connell, $38,750; James Curtis & Co., $42,830, and Van der Molen & Brill, $45,470.

SAULT STE. MARIE, MICH.—Bids are asked until March 1 for constructing and installing turbines of 45,200 HP. for the plant of the Michigan-Lake Superior Power Co. H. Von Schon, Ch. Engr. Last September the Michigan-Lake Superior Power Co. began active construction work on a water-power canal that will develop 40,000 HP. At present work is progressing only on the lower section of the canal. Early in the spring operations will be rushed all along the line. The canal is to be completed by April 1, 1900. Contracts for its construction aggregate almost $2,000,000.——The Chandler-Dunbar Water Power Co. has about perfected arrangements to increase its water-power canal from its present capacity of 10,000 HP. to 35,000 HP., at a cost of about $75,000. The work will probably be begun this year. As soon as the development is made there will be built here a pulp mill and a paper mill to use the increased power.

CHICAGO, ILL.—The following bids were received by the deputy commissioner of public works, Jan. 29, for installing plants in the Springfield Ave. and in the Central Park Ave. pumping stations:

Bidder.	Springfield Ave.	Central Park Ave.
Arthur Frantzen & Co.	$3,085	$3,000
Henry Newgard	2,440	2,200
Western Electric Co.	2,381	2,218
Roonheld & Gallery	2,498	2,388

CHICAGO, ILL.—Bids are asked until Feb. 14 for furnishing 300,000 arc light carbons. E. G. Schubert, Secy. West Chicago Park Comrs., Union Park, Chicago.

CHICAGO, ILL.—The engineering committee of the drainage board has decided to ask for propositions for developing the water power of the canal at Lockport. It is thought that about 30,000 HP. can be secured.

MARSHFIELD, WIS.—The Marshfield Electric Light & Power Co. has been awarded the contract for furnishing lights for five years. No municipal plant will be built.

BOSCOBEL, WIS.—Bids are asked until Feb. 10 for furnishing and installing a plant to cost $9,000, according to reports. C. W. Menkhausen, Cy. Clk.

IOWA CITY, IA.—It is stated that the plant of the Iowa City Electric Lighting Co., located at Coralville, three miles from here, was destroyed by fire Feb. 1, causing a loss of about $20,000.

MILTON, IA.—The question of building a plant is being considered, according to reports.

WINONA, MINN.—Geo. Z. Heuston, Cy. Engr., writes us that a report, together with an estimate on the construction of a municipal plant, will probably be made by the committee about the middle of this month.

WELLINGTON, KAN.—W. A. Renn writes us that the council has been asked to call an election to vote on the question of issuing $100,000 in 4 per cent. bonds for a plant and water-works. No election has yet been ordered, nor is likely to be before spring.

NEBRASKA CITY, NEB.—It is stated that the Nebraska City Water and Light Co. proposes to put in a new boiler, a 300-HP. Corliss engine, a 3,000 light alternating dynamo, etc. Work will probably be begun in the spring. D. P. Rolfe, Gen. Mgr.

BOULDER, COLO.—It is stated that work will soon be begun upon a plant for this place; it is to be completed in June. J. W. Deane, Denver, Colo., and Hollis French, Elec. Engr., may be addressed.

HAMILTON, MONT.—The electric plant of the Anaconda Copper Mining Co. was destroyed by fire Jan. 30, causing a reported loss of $7,500.

NORRIS, MONT.—Plans are being prepared for the Madison Canon power plant. The dam will be located in the Lower Madison Canon, about eight miles from Norris. In a distance of nine miles there is a fall of 276 ft., out of which there is obtained an effective head of 200 ft. by means of dam and flume. The plant will furnish 10,000 HP. O. B. Suhr, Engr.-in-Charge, Norris.

ST. LOUIS, MO.—Bids will probably soon be asked by the city lighting commission for lighting the city with electricity for five years. Bond, $250,000.

SEDRO, WASH.—The plant of the Mount Vernon Electric Light Co., it is reported, will be removed to this place if a satisfactory franchise will be granted.

TACOMA, WASH.—W. R. Rush, Gen. Mgr. Tacoma Smelting Co., writes us that part of the bids for furnishing the machinery for the plant to operate the smelting works are received; estimated cost, $40,000. The plant will have a capacity to furnish 150 16-c. p. lights.

NEVADA CITY, CAL.—Messrs. Carr, Rich and Gault have been appointed a committee by the board of trustees to investigate the subject of a municipal plant.

RED BLUFF, CAL.—The plant of the Tehama Electric Light & Power Co., recently built, was destroyed by fire Jan. 27, causing a reported loss of about $12,000. James Cross, San Francisco, the owner, will probably rebuild at once.

SAN FRANCISCO, CAL.—The board of supervisors has authorized Mayor Phelan to engage an engineer to prepare a report upon the subject of a municipal plant, it to be submitted 60 days from Jan. 24. Supervisors Lackmann and Perrault may be addressed.

GLOBE, ARIZ.—We are informed that Ernest Abe Hagen, 338 Byrne Bldg., Los Angeles, Cal., has made a preliminary report on a proposed water power development of 800 HP. at Globe. It will be used to furnish power to mines, electric light plants, street car lines, etc.

ROSWELL, N. MEX.—The chairman of the town trustees writes that a franchise was granted to J. J. Cooper, of Trinidad, Colo., about three weeks ago. The plant is to be in operation by July 1. It will have a capacity for furnishing five 2,000-c. p. arc and 300 16-c. p. incandescent lights, and will be operated by water power; estimated cost, $8,000. Work will be begun at once.

LOGAN, UTAH.—Christian Garff is reported interested in a proposed plant in this place to furnish 1,200 HP.

HAMILTON, ONT.—The Cataract Power Co. has applied for a 10-year franchise. The city has asked the company for the rate for furnishing 500-arc and 1,000 incandescent lights. H. R. Lyden, Engr.

LINDSAY, ONT.—Mr. McHugh, M. P., has applied to the Government for permission to operate a power from water power furnished by the Morrisburg canal at this place. Parties from Petersburg have also applied for similar privileges.

MORRISBURG, ONT.—A Brodeur, M.P., Dundas, Ont., and Adam Johnston, of Morrisburg, have asked the government to grant them authority to use water power from the Morrisburg canal.

CASCADE CITY, B. C.—It is reported that the Dominion Mining & Development Co., Ltd., has acquired the water power on Kettle River at this place. It has advertised for bids for cutting and delivering 60,000 lin. ft. of round timber for the cribbing of the dam.

DALWHINNIE, SCOTLAND.—The Highland Water Power Syndicate has applied to Parliament for permission to build a plant at this place to utilize the water of Loch Ericht for power purposes. It is proposed to secure over 30,000 HP.; estimated cost, $5,000,000. The engineers are Geo. Anderson, Edinburgh, Scotland; R. E. Middleton, 35 Parliament St., S. W., London, and Kincaid, Waller & Manville, 11 Great George St., S. W., London.

SHANGHAI, CHINA.—Blackall & Baldwin, 39 Cortlandt St., New York, constructing engineers, who are the New York agents for the Shanghai municipal council, have been informed that the contract for the additional electric light plant to be erected at Shanghai has been let to an European concern. Bids for the electric railway and telephone concessions will be received by Blackall & Baldwin until March 15 and 31, respectively.

BANGKOK, SIAM.—The New York "Journal of Commerce" states that the Siam Electricity Co., Ltd., has been formed in Copenhagen, Denmark, with a capital stock of $160,000, which in April will be increased to $500,000.

NEW COMPANIES.—Wrightsville Electric Co., Wrightsville, Pa.; $50,000, with $500 paid in; Calvin G. Smith, D. S. Cook, Wrightsville; J. E. Baker, York.

Campton Electric Light Co., Campton, N. H.; $2,000. M. C. Dole, H. M. Fifield.

Elmwood Light & Power Co., Elmwood, N. Y.; $100,000. Robert C. Pruyn, Albany; W. L. Elkins, Philadelphia; John Dunfee, W. B. Kirk, P. J. Mack, Syracuse.

Porto Rico Co., Trenton, N. J.; $1,000,000; to manufacture and sell gas and electric light in the West India Islands; Matthew Randall, Nathan J. Mitchell, Elmund C. Alsop and Frank B. McAvoy.

International Incandescent Light Co., Philadelphia; $1,000,000; A. E. Stilwell, Pres. Kansas City, Pittsburg & Gulf R. R. Co., Kansas City, Mo. A Massachusetts company is now being organized, with $500,000 capital, by Louis Lombard, Asst. Secy. Kansas City, Pittsburg & Gulf Road, who has secured the rights for this state. Companies are also being organized for Ohio, Kentucky, Illinois, Rhode Island, Maryland and other states. The special field of the company is suburban lighting for towns and cities not having electric plants.

Corunna Lighting Co., Corunna, Mich.; $20,000; C. M. Nolley, D. M. Lowe, D. C. Nolley, F. Clark, M. Mead.

Rockford & Belvidere Electric Ry. Co., Chicago; $50,000; H. L. Jewell, W. H. Vorhis, C. B. Maslich, W. D. Sheahan, F. A. Poor.

Carolina New Light Co., Elizabeth City, N. C.; $25,000. Charles H. Robinson, D. B. Bradford, W. W. Mann, E. F. Lamb, J. B. Griggs.

North Woodstock Electric Light, Heat & Power Co., North Woodstock, N. H.

Seattle Power Co., Seattle, Wash.; $1,250,000; to install a plant capable of furnishing 12,000 HP. at the falls on Cedar River; E. H. Ammidown, Pres.; T. A. Noble, Engr. and Secy., Bailey Bldg., Seattle.

BRIDGES.

WATERVILLE, ME.—Reports state that Wm. T. Hanes, Harvey D. Eaton and others have incorporated the Ticonic Footbridge Co., and will petition the legislature for a charter to construct a steel bridge over the Kennebec River between Waterville and Winslow; estimated cost, $20,000.

BOSTON, MASS.—Bids are asked until Feb. 20 for the abutments of a bridge over the railway on Sweet St. Wm. Jackson, Cy. Engr.

BROOKLYN, N. Y.—Bids are asked by the department of bridges, Stewart Bldg., New York, until Feb. 16 (postponement from Feb. 2), for constructing the Hausville Bridge over Newtown Creek, at Greenpoint Ave.

BUFFALO, N. Y.—The board of aldermen has passed a resolution to construct a bridge to cost $6,000 over the creek on Sprenger St.

NEW YORK, N. Y.—Bids are asked by the East River bridge commissioners, 49 Chambers St., until Feb. 18, for furnishing the material and constructing the steel towers and end spans of the new East River bridge, as described in our advertising columns. Lewis Nixon, Pres.; Smith E. Lane, Secy.

WILMINGTON, DEL.—The water commissioners have awarded a contract to the Edge Moor Bridge Co., at $3,100, for a bridge over the Brandywine race.

DARLINGTON, S. C.—Bids are asked until Feb. 9 for constructing a bridge 65 ft. long over Black Creek. W. S. King, County Supervisor.

SHREVEPORT, LA.—Bids are asked until March 9 for constructing a bridge over Cowhide Bayou, Ward No. 1. A. L. Duringer, Clk. of Parish.

NASHVILLE, TENN.—The Tennessee Central Ry. Co. has engaged Waddell & Hedrick, Consult. Engrs., Gibraltar Bldg., Kansas City, Mo., to prepare plans and specifications and to superintend the construction of new bridges for its line. Jere Baxter, Pres., Nashville, Tenn.; Geo. T. Bigelow, Ch. Engr., Rockwood.

BIRMINGHAM, O.—Plans are being prepared for a new bridge, according to reports. J. C. Hausen, Pres. County Comrs., Sandusky.

CLEVELAND, O.—The King Bridge Co. has submitted the lowest bid for constructing the Center St. bridge superstructure, at $36,999.

SOMERVILLE, O.—L. A. Dillon, County Engr., Hamilton, O., has submitted plans for a high truss bridge, 200 × 22 ft., over Seven Mile Creek; estimated cost, $15,800.

MOLINE, ILL.—A contract has been awarded to the J. G. Wagner Co., Milwaukee, Wis., for constructing the new Rock River bridge.

COUNCIL BLUFFS, IA.—C. E. H. Campbell and James Seguin, Council Bluffs, have been awarded a contract by the Fort Dodge & Omaha R. R., for constructing about 5,000 lin. ft. of trestle work, to cost about $40,000, between this place and Loveland.

DES MOINES, IA.—Plans will soon be submitted to the board of public works for a new bridge over the Des Moines River at Sixth St. Barney Marsh, Engr.

WAVERLY, IA.—The county supervisors have awarded a contract to the Toledo Bridge Co., Toledo, O., at $15,-990, for constructing a steel plate girder bridge of four spans over Cedar River. A contract for the timber work has been awarded to Henry Knapp, Waverly, at $2,983.

LOUP, NEB.—Bids are asked until March 14 for constructing all wooden bridges for one year. John Minshull, County Clk.

KANSAS CITY, MO.—Bids are asked until Feb. 14 for a wooden bridge on the Lone Jack Road. Thos. F. Callahan, County Surveyor.

LEWISTON, IDAHO.—The Northern Pacific Ry. Co. will construct a bridge over the Snake River above the Clearwater Junction on the proposed Lewiston-Pasco branch.

EVERSON, WASH.—The north span of the iron bridge over Nooksac River has been washed out. The structure cost about $11,000. C. M. Adams, County Engr., New Whatcom.

McMILLIN, WASH.—One span, about 80 ft. long, of the county bridge over the Puyallup River has been washed out. Address County Surveyor Noel, Tacoma.

BUILDINGS.

HOLYOKE, MASS.—Plans are being prepared for two brick and stone apartment buildings to be erected on Chestnut st., between Appleton and Essex sts., for L. A. La France; estimated cost, $60,000. W. B. Reid, Arch.

NEWPORT, R. I.—Bids are asked by the city hall commission until Feb. 21 for furnishing a heating and ventilating system, and for plumbing, for the new city hall. John D. Johnson, Arch., 69 Mill St.

ALBANY, N. Y.—We are informed that the board of contract, Feb. 6, selected plans for the new public bath building to be erected in this city. Edgerton Swartout, Arch, 160 5th Ave., New York.

BROOKLYN, N. Y.—Plans are being completed, according to reports, for a new 14-story fireproof building at Court and Joralemon Sts., for David G. Leggit, 203 Montague St., to cost about $200,000. George L. Morse, Arch., 303 Washington St., Brooklyn.

MINEOLA (L. I.), N. Y.—The supervisors of Nassau county have received about 47 plans for the proposed county buildings, out of which 14 have been selected for further consideration.

NEW YORK, N. Y.—Plans have been filed by G. C. & C. J. Weber, 873 Putnam Ave., for three 5-story brick dwellins on 74th St., near Park Ave., to cost about $75,000. Buchman & Deisler, Archs., 11 East 59th St.; by Daniel D. Lawson, 580 West 146th St., for ten 5-story brick tenement buildings, on 114th St., near 8th Ave, to cost $100,-000. John P. Leo, Arch., 143 West 125th St.; by Jas. C. Picken, 218 West 137th St., for three 3-story brick dwellings on 137th St., near 7th Ave., to cost $60,000. John Hauser, Arch., 1441 3d Ave.; by Catherine Taylor, 306 West 51st St., for an 8-story brick business building at 33 Bond St., to cost $60,000. Ralph S. Townsend, Arch., 29 East 19th St.; by Elbridge T. Gerry, Newport, R. I., for a 7-story brick office building and factory at 15 and 17 Water St., to cost $164,994. R. S. Townsend, Arch.; by Jacob Fischel, 197 Henry St., for a 6-story brick flat and store building at 128 and 130 Allen St., to cost $50,000. Horenburger & Straub, Archs.; by P. J. Quirk, 2289 7th Ave., for six 5-story brick dwellings on 93th St., near Madison Ave., to cost $104,000. Henry Anderson, Arch., 1180 Broadway; by Marcus Hoffberg, 212 Delancey St., for three 5-story brick flat buildings on 122d St., near 8th Ave., to cost, $96,000. G. F. Pelham, Arch., 503 Fifth Ave.; by Mrs. Ellen Mulholland, for 4-story brick tenement buildings at Jackson Ave and 163d St., to cost $56,-000. Lawrence & Ringrose, Archs.——Marc Eidlitz & Son, 489 5th Ave., have been awarded the contract for erecting the Franklin Savings Bank building at 8th Ave. and 42d St. York & Sawyer, Archs, 156 5th Ave.

NEW YORK, N. Y.—Bids are asked by the board of education, 585 Broadway, until Feb. 21, for erecting a new school building, No. 170, at 111th and 112th Sts., between 5th and Lenox Aves.——The House of Representatives has passed the bill providing for the erection of a new Custom House in this city.

ROCHESTER, N. Y.—Frederick C. Seitz & Sons have been awarded the contract for rebuilding the car barns of the Rochester St. Ry. Co. on Otsego St.

WHITE PLAINS, N. Y.—Plans and specifications will soon be asked by the supervisors of Westchester county for the erection of a new 2½-story stone addition to the county court house; to cost about $100,000. Chauncy T. Secor, Chn.

PHILADELPHIA, PA.—A fire in this city, Feb. 3, destroyed two large blocks of buildings at 13th and Willow Sts., occupied by W. S. Cooper, the Stewart Cracker Co. and others; reported loss, about $700,000.——J. E. & A. L. Pennock, 305 Walnut St., are stated to have received the contract for erecting an 8-story addition for the Philadelphia Cold Storage & Warehousing Co., at Delaware Ave. and Noble St.; work to begin March 1.

WILMINGTON, DEL.—John E. Healey has been awarded the contract for erecting a new 6-story building at 10th and Market Sts. for Peter J. Ford.

BALTIMORE, MD.—Otis C. Brownley, Secy. of Court House Commission, informs us that the following bids were received Feb. 1 for an elevator plant for the new court house; bids have been referred to the architects: Morse, Williams & Co., 1105 Frankford Ave., Philadelphia, Pa., for hydraulic elevators, $33,500; Bartlett, Hayward & Co., local agents for Otis Elevator Co., of New York, hydraulic $32,900, electric $26,580; Sprague Electric Co., 20 Broad St., New York, electric $32,625.

WASHINGTON, D. C.—The following bids were received by the Evening Star Publishing Co., Jan. 30, for the erection of a new building in this city: J. E. & A. L. Pennock, Philadelphia, Pa., $349,000; Richardson & Burgess, Washington, $364,399; G. A. Fuller & Co., New York, $377,341; John McGregor, Washington, $379,000; Woodbury & Leighton, Boston, Mass., $389,874; F. L. Hanvey, Washington, $390,000; J. L. Parsons, Washington, $396,189; J. F. Manning & Co., Washington, $399,350; F. N. Carver, Washington, $414,688; Galloway & Son, Washington, $445,612.——The Moulton & Starrett Co., Chicago, Ill., were the lowest bidders, Jan. 30, for erecting the new Hearst school building on the grounds of the Episcopal Cathedral, at $169,516.

FLORIDA REEFS, FLA.—We are informed that the following bids were received by Lt.-Col. A. N. Damrell, U. S. Engrs., Mobile, Ala., Jan. 30, for erecting six-day beacons on Florida Reefs, as advertised in Engineering News:

J. H. Gardner, New Orleans, La.	$3,400
Sinnott & Dyer, Nashville, Tenn.	1,500
Peter Escald, Biloxi, Miss.	1,850
J. A. Weatherford, Key West, Fla.	2,450

BIRMINGHAM, ALA.—Bids are asked until Feb. 13 for the erection of an administration building and northeast wing for St. Vincent's Hospital in this city; estimated cost, $225,000. Address Walter & Ullman, Chalifoux Bldg.

LOUISVILLE, KY.—The Buckingham Theatre, on Jefferson St., was damaged by fire Feb. 2; reported loss, $50,000.

CLEVELAND, O.—Bids are asked by the board of education until Feb. 25 for erecting an 8-room addition to the Union school building. H. Q. Sargent, Director.

COLUMBUS, O.—A fire in this city Feb. 1 destroyed the building occupied by Green, Joyce & Co., wholesale dry-goods, and others; reported loss, $500,000.

DETROIT, MICH.—Bids are asked by the county clerk until Feb. 23 for the marble and scagliola work, iron work, etc., of the new Wayne county court house. John Scott & Co., Archs., 67 Moffat Block.

EAU CLAIRE, WIS.—Bids are asked by the board of education until March 6 for the erection of a 2-story 8-room brick school building. C. L. Brown, Arch.

OSHKOSH, WIS.—The following bids were received by the board of public works Jan. 30 for erecting the new public library building: Hackworthy Construction Co., Appleton, Wis.; $42,452; Houle & Seifert, Oshkosh, $48,499; Carl Schneider, Oshkosh, $39,870; J. T. Raycraft, Oshkosh, $37,994; Hinkley & Powers, Fond du Lac, Wis., $42,695; J. E. Mallory, Oshkosh, $44,973; Meyer & Domke, Oshkosh, $42,830; Charles W. Gindele Co., Chicago, $35,-700.

DES MOINES, IA.—Smith & Gutterson, of Des Moines, have been selected as architects for the new library building, 80×150 ft.; to cost about $100,000.

BURLINGTON, KAN.—The commissioners of Coffey county are contemplating the erection of a new $40,000 court house.

ST. LOUIS, MO.—It is reported that contracts have been let for the construction of a 7-story brick and terra cotta business building, for John S. Sullivan, at 10th St. and Washington Ave.; estimated cost, $150,000. Isaac Taylor, Arch.——A new $75,000 Y. M. C. A. building will be erected here in the spring.

SAN FRANCISCO, CAL.—Bids are asked by the bureau of yards and docks, Washington, D. C., until March 4, for the erection of twelve officers' quarters at the navy yard, Mare Island, Cal. M. T. Endicott, Ch. of Bureau.——Bids are asked by the bureau of navigation, Washington, D. C., until March 15, for the construction of a barracks and boiler house for the U. S. naval training station on Yerba Buena Island. A. S. Crowinshield, Ch.

PHOENIX, ARIZ.—S. M. McCowan, Supt., informs us that J. B. Sprague, of Phoenix, was the successful bidder for erecting a dormitory building, and the Scoville Plumbing Co., of Phoenix, for water and sewer systems for the U. S. indian school at Phoenix. Bids were received by the Office of Indian Affairs, at Washington, D. C., Jan. 25.——Tom Lovell, Denton, Tex., informs us that he will sublet most of the work required in the erection of the new capitol building in Phoenix, to cost about $100,000. Address all communications to Mr. Lovell at Phoenix.

WATER-WORKS.

FORT FAIRFIELD, ME.—The legislature has been asked by Arthur P. Libbey, Miles T. Dorsey and E. W. Pond to incorporate the Fort Fairfield Water Co., with a capital stock of $50,000. At present there is the plant of the Frontier Water Co., built in 1889.

SEARSPORT, ME.—J. W. Black, F. I. Mortland and W. H. Hayden have applied for the incorporation of the Searsport Water Co., to have a capital stock of $50,000.

SULLIVAN, ME.—Herbert M. Heath, of Sullivan, has applied to the legislature for a charter for the Sullivan Harbor Water Co.

EVERETT, MASS.—Bids are asked until March 7 for furnishing 600 lengths of cast-iron water pipe, as stated in our advertising columns. F. A. Beals, Water Registrar.

SPRINGFIELD, MASS.—Chas. M. Slocum, Cy. Engr., writes us that the water is being drawn out of the Ludlow reservoir for the purpose of examining the bottom and deciding the best mode of treatment. A local paper states that a temporary water supply can be secured for about $10,000. The water will probably be all off by May 1. Councilman Goodhue, Chn. Com.

WHITMAN, MASS.—It is stated that the commissioners will recommend that a new water supply be secured from Maquan Pond.

WOBURN, MASS.—Wm. W. Wade, Water Registrar, writes us that the legislature will be asked to grant this city permission to borrow $25,000 for making extensions to the mains, etc.

AMSTERDAM, N. Y.—Bids are asked until March 1 for laying about five miles of 6 to 36-in. cast-iron water mains and for constructing two stone dams, as stated in our advertising columns. S. E. Babcock, Consult. Engr., Little Falls, N. Y. Jas. R. Snell, Supt.

NEW YORK, N. Y.—Bids are asked until Feb. 16 for laying water mains in a number of streets. Wm. Dalton, Com. Water Supply, 150 Nassau St., Manhattan.

SCHENECTADY, N. Y.—A mistake was made in our issue of Jan. 26 in stating that the legislature had been asked to grant this city authority to issue $512,000 in bonds for improving the water supply. The city has asked for permission to issue $15,000 in bonds for new mains in several streets. If these bonds should be issued the bonded indebtedness of the town will be $512,000.

TANNERSVILLE, N. Y.—We are informed that surveys are being made for works.

WHITE PLAINS, N. Y.—We are informed that legal steps have been taken to condemn the 704 acres required immediately for reservoir purposes. Surveys are being made for the dam and the 300 or 400 acres additional required to protect the supply. It is expected to have plans ready so that contracts may be let in the spring. The dam will be of masonry with rock foundation 350 ft. long, and between 30 and 40 ft. high; capacity, 100,000,000 gallons. The supply will be secured from the Tompkins Brook water shed. John M. Farley, Consult. Engr., White Plains; J. M. Digney, Pres. Comrs.

JERSEY CITY, N. J.—Mayor Hoos, on Feb. 1, signed the contract awarded to Patrick H. Flynn, Brooklyn, N. Y., for the construction of the new works, and for furnishing the city with pure water. The price is $36 a million gallons until the daily consumption passes 25,000,000 gallons. For 30,000,000 gallons the price will be $34 a million; for 35,000,000, $32; for from 35,000,000 to 45,-000,000 gallons, $24 a million, and after that $20 a million, the maximum being fixed at 70,000,000 gallons daily. The city may purchase the plant at any time within one year after it is in operation for $7,595,000, provided a fifty-million gallon maximum be agreed upon. With a seventy-million-gallon maximum and one year's option the price will be $8,745,000. Should the city elect to wait five years or longer the price will be $9,245,000, but the purchase must be made within 15 years. The water is to be drawn from the Rockaway River, the intake to be at Old Boonton. Work will begin at once.

CARBONDALE, PA.—R. H. Patterson and Jos. Jermyer, of Scranton, Pa., and others, have purchased the works and property of the Crystal Lake Water Co. A dam will be built in No. 3 ravine this spring. Other improvements may be made.

CONNEAUTVILLE, PA.—An election will be held Feb. 21 to vote on the question of issuing $10,500 in bonds for works. The water supply will be secured from Nicolls Springs.

COOPERSBURG, PA.—At the election, Feb. 21, this place will probably vote on the question of issuing $20,000 in bonds for the proposed works. The supply will be secured from springs by pumping. Population (1890), 500.

WAYNESBURG, PA.—The question of purchasing the works of the Waynesburg Water Co. for about $45,000 is being considered.

EASTPORT, MD.—The citizens of this place are reported as wanting works. Population, 1,000.

WASHINGTON, D. C.—The House committee on public buildings and grounds has ordered a favorable report on the bill providing that the architect of the United States Capitol building be directed to have erected and connected a complete filtration plant, to have a guaranteed capacity to deliver not less than 300,000 gallons every 24 hours of clear water at the Senate end of the Capitol building and a like amount at the House end. The cost is to include the filter, tanks charged with filtering material and all valves, pipings and fittings and plumbing connections necessary to complete the plant for operation. A system will be selected in which the water will be double filtered through two separate filter beds at a rate of not more than five gallons a square foot of bed a minute.

WASHINGTON, D. C.—Bids are asked by the district commissioners until March 11 for constructing a reservoir in the District of Columbia, as stated in our advertising columns.

NORFOLK, VA.—The committee has recommended the construction of a small reservoir as a storage for filtered water; estimated cost, $6,750. City Engineer Brooke may be addressed.

REIDSVILLE, N. C.—W. T. Wootton writes us that an election will be held about March 15 or 18 to vote on the question of issuing $29,000 in bonds for the proposed works. The works will consist of a 5 × 8 triplex pump, a mounted tank on an iron tower 125 ft. high; a fire pump, 9,000 ft. of 4-in, 16,000 ft. of 6-in. and 5,000 ft. of 8-in. pipe, 15 4-in. and 48 6-in. hydrants; about 24,000 lbs. of special castings, lead, valves, etc. H. E. Knox, Engr., Charlotte, N. C.; R. T. Williams, Mayor.

COLUMBIA, S. C.—The Pittsburg Meter Co., Pittsburg, Pa., is reported to have been awarded the contract for furnishing 1,293 water meters.

ROME, GA.—H. M. Smith, Cy. Engr., writes us that the committee appointed some months ago to investigate the question of filters has done nothing as yet. It is not probable that a filter will be put in, but if anything is done it will probably be the installation of a new settling basin.

TYBEE ISLAND, GA.—It is stated that plans for works for Tybee Island are being prepared. Lt. Jno. L. Hayden, Q.M., U.S.A., Tybee Island (P. O. Savannah).

ST. PETERSBURG, FLA.—An election will probably soon be held to vote on the question of issuing 6% bonds for the proposed works. Population (1890), 273. S. T. Jenners, may give information.

LAFAYETTE, ALA.—The legislature has been asked to grant this place authority to issue $20,000 in bonds for works and an electric plant.

MONTGOMERY, ALA.—Geo. A. Ellis, Consult. Engr., writes us that a report has been made in favor of a horizontal compound condensing 5,000,000-gallon pump and of a vertical triple expansion high duty 5,000,000-gallon pump. The committee has recommended it for adoption by the council.

GULFPORT, MISS.—J. H. Long, Secy., writes us that the owners of the works are turning the private partnership into a stock company for future enlargement.

FAYETTEVILLE, TENN.—Bids are asked until March 15 for furnishing the materials and for constructing works as described in our advertising columns. B. A. Lewis, Mayor; J. E. Poindexter, Clk.

AKRON, O.—The Akron Water-Works Co. has decided to extend its mains to South Akron as soon as that town is incorporated.

CINCINNATI, O.—Bids are asked until Feb. 13 for laying water pipe in West 6th St. G. H. Spellmire, Clk Bd.

COLUMBUS, O.—Bids are asked until Feb 16 for furnishing the material and for constructing a concrete masonry dam, as described in our advertising columns. In our issues of Sept. 22 and Oct. 20, we gave the bids for this work previously opened. Julian Griggs, Ch. Engr., Dept. Pub. Improvements.——It is proposed to purchase a centrifugal pump to be placed at the West Side pumping station, to cost $1,000.

DELAWARE, O.—John W. Hill, 35 Glenn Bldg., Cincinnati, O., has been retained by the council to investigate and report upon the physical condition, extent and value of the property of the Delaware Water Co. The report will probably be ready in about three weeks.

McCONNELLSVILLE, O.—Bids are asked until March 8 for the purchase of $10,000 of 5% bonds for the proposed works. Geo. Birch, Clk., writes us that the bids received Jan. 27 were rejected.

SCIO, O.—John Shuffer, Mayor, writes us that the question of building works is being considered. At a meeting of the council, Feb. 4, something definite was probably done in regard to the matter.

BOURBON, IND.—The following bids were received Jan. 25 for constructing works and an electric plant: J. P. Miller & Co., Chicago, $27,750; Olds Construction Co., Fort Wayne, Ind., $25,325; Western Engineering & Construction Co., Chicago, $25,220.

CLINTON, IND.—C. M. White, Mayor, writes us that no definite steps have yet been taken in regard to works.

GOSHEN, IND.—J. D. Wolfe, Cy. Clk., writes us that H. D. Hallett, Aurora, Ill., has been awarded the contract for laying 15,000 ft. of steel riveted water mains at $7,-625, or for cast-iron pipe at $7,633.

BAY CITY, MICH.—The water commission has asked for bids for furnishing 10-in. cast-iron water pipe.

GRAND RAPIDS, MICH.—Geo. M. Ames, Cy. Engr., writes us that surveys are being made of the available sources of water supply. When mapped, the results will be submitted to the pure water commission.

MOUNT PLEASANT, MICH.—Bids are asked until March 1 for furnishing the materials and for constructing the works and sewerage system for the Indian school here. W. A. Jones, Comr. Indian Affairs, Washington, D. C.

CHICAGO, ILL.—Bids are asked until Feb. 15 for laying water pipe in a number of streets. L. E. McGann, Pres.

BARABOO, WIS.—Jas. Hull, Supt. Baraboo City Water-Works Co., writes us that the company will prepare its own plans for an increased supply, and will also do the work itself.

LA CROSSE, WIS.—T. H. Spence, Pres. Council, writes us that it is proposed to extend the water mains at a cost of $20,000. The council will probably take action in regard to the matter on Feb. 10.

OTO, IA.—Bids are asked until March 1 for furnishing the materials and for constructing works, as stated in our advertising columns. The United States Supply Co., Omaha, Neb., furnished the plans and specifications. A. G. Ross, Clk.; P. G. Riedesel, Chn. Com.

BARRETT, MINN.—An election will be held March 10 to vote on the question of building works. C. G. Peterson, Chn. Com.

WAMEGO, KAN.—The Trowbridge, McDonald & Niver Co., Chicago, has been awarded the $25,000 of 5% bonds for building the works, the contract for which was let in December to W. W. Cook, Junction City, Kan. H. V. Hinckley, Engr., Topeka, Kan.

WELLINGTON, KAN.—W. A. Lewis writes us that the council will soon be asked to call an election to vote on the question of issuing $100,000 of 4% bonds for municipal works and an electric plant. It will probably be called in the spring.

RED LODGE, MONT.—The question of issuing bonds for works is being considered.

NEOSHO, MO.—The Neosho Water Co. has agreed to sell its works to the city for $25,000 cash and $21,000 in 24 semi-annual payments.

MAMMOTH SPRING, ARK.—J. B. Hunt, Recvr., writes us that the city wants works, and is open for propositions for constructing same. Population, 1,500. B. F. Elder, Mayor.

AUSTIN, TEX.—Press reports state as follows: On Jan. 26 a damage suit for $500,000 was filed in the District Federal Court against this city. The case arises out of a fight lasting several years between the city and the Austin Water, Light & Power Co. The company has a contract with the city which does not expire for several years, and, according to the specifications of the company in the prayer for damages, the city was in duty bound to buy the works in case it at any period during that time decided to establish its works. This the city did not do, but erected a plant of its own in opposition, and the company now claims to have been damaged thereby in the above-named sum. For further information see 1892 "Manual of American Water-Works."

CORSICANA, TEX.—It is stated that the Corsicana Water Development Co. proposes to extend its mains and to build a standpipe at a cost of about $12,000. Jas. L. Autry, Pres.

HOUSTON, TEX.—The Houston Water-Works Co. has let a contract to Gus Warnecke to sink a number of artesian wells to secure an additional supply of 2,000,000 gallons.

LOCKHART, TEX.—Dr. W. G. Blunt, owner of the works, is reported as arranging for the construction of new works.

SAN BERNARDINO, CAL.—The Riverside Highland Water Co. has been incorporated with a capital stock of $200,-000, of which $4,400 is paid in, by E. A. Chase, Riverside, Cal.; M. A. Murphy, of Colton, Cal.; Geo. L. Bush, of Highgrove, Cal., and others.

SACRAMENTO, CAL.—The city trustees have voted to appropriate $109,500 for new mains and for a new pump, the latter to cost about $30,000.

SAN LUIS OBISPO, CAL.—This city has agreed to purchase the works of the San Luis Water Co. for $50,000.

PHOENIX, ARIZ.—We are informed that another election will be held in about 20 days to vote again on the question of issuing $265,000 in bonds for municipal works and sewerage system. Ernest Abs Hagen, Consult. Engr., 338 Byrne bldg., Los Angeles, Cal.

BERLIN, ONT.—Wm. M. Davis, Town Engr. and Supt. Water-Works, writes us that he has been instructed to report on the quantity of water available and the best means of increasing the supply. Population, 10,000.

OTTAWA, ONT.—John Galt, Cy. Engr., has submitted his report on the needs and present condition of the works. He states that a new set of pumps of more than 5,000,000 gallons capacity is required, also that it would be better to have electric power for the auxiliary plant instead of steam.

WINNIPEG, MAN.—Bids are asked until April 3 for furnishing and installing two 5,000,000-gallon pumping engines. H. N. Ruttan, Cy. Engr.; C. J. Brown, Cy. Clk.

VICTORIA, B. C.—Bids are asked until Feb. 20 for furnishing brass goods, valves, main cocks, plugs, elbows, etc. W. W. Northcott, Purchasing Agent.

IRRIGATION.

LAKE CHARLES, LA.—R. N. Nason has purchased half the interest in the irrigation plant of Frazer & Hill, at $15,000. The plant will be enlarged, according to reports.

MISSOULA, MONT.—R. M. Cobban and Samuel Dinsmore have located about 500,000 ins. of the Missoula River at a point about two miles east of this city, near the old Greenough ranch. The appropriation of water is for irrigating certain lands in the Hell Gate, Missoula and French Town valleys, respectively, by means of a dam to be constructed at the point of location and for commercial, industrial and domestic purposes; estimated cost, $25,000. Work will be commenced in about 60 days.

HELENA, MONT.—Work on the construction of an irrigation system for the Fort Belknap Indian Reservation has been commenced by the Indians. A crib dam from 7 to 9 ft. high, 8 ft. wide and 250 ft. long will be constructed on Milk River. This dam will make an available water supply of from 50 to 60 cu. ft., and will furnish enough water to cover 2,000 acres two-thirds of a foot deep. It is also proposed to utilize the water from Big Warm Spring Creek by constructing a reservoir which will cover 150 acres 50 ft. deep, from which it is expected to irrigate 3,000 acres. The work thus far has been done at a cost of less than 10 cts. per cu. yd. for excavation. A. E. Cumming, Engr. and Supt. of Construction.

SPOKANE, WASH.—A company has been formed to irrigate the Spokane Valley. It is proposed to construct an irrigation system extending from Hayden Lake, Idaho, about 27 miles from this city and a few miles north of Lake Coeur d'Alene, down both sides of the Spokane River to this city. Water is to be carried for a distance of over 30 miles, and it will be possible to irrigate several hundred thousand acres of arid land; estimated cost, about $400,000. An effort is now being made to secure sufficient capital.

LOGAN, UTAH.—A petition has been presented to the legislature with 300 signatures for an appropriation of $5,000 to construct a flume for the relief of the Logan and Richmond irrigation district.

RICHFIELD, UTAH.—The Richfield Canal Co. will widen and extend its canal as soon as water can be obtained from Otter Creek reservoir. Simon Christenson, Pres.; A. P. Rasmussen, Secy. and Treas.

SALINAS, CAL.—The Salinas Valley Water Co. and the Spreckels Sugar Co. have agreed to construct a canal 30 ft. wide at the bottom, over the King ranch, according to reports.

STOCKTON, CAL.—The property of the Woodbridge Canal & Irrigation Co. has been purchased by R. E. Wilhout and W. D. Buckley, of this city. It is reported that the new owners will install a pumping plant on the Mokelumne River, to fill the canals and ditches. Steam power will have to be employed at first, but later electricity will be used from the Blue Lakes plant.

PHOENIX, ARIZ.—Reports state that the Greenhut interests of Peoria, Ill., which recently purchased the remains of the Gila Bend canal and reservoir, will soon begin the work of reconstructing the dam, etc., which have been washed away.

SEWERAGE.

BOSTON, MASS.—The aldermen have appropriated $1,000,000 for the construction of certain sewers.

SPRINGFIELD, MASS.—Chas. M. Slocum, Cy. Engr., writes us that plans are being prepared and borings are being made for an intercepting sewer to drain the vicinity of Gunn Square. A local paper states that the cost will be about $75,000.

WORCESTER, MASS.—Press reports state that Mr. Mellen, of Worcester, has introduced a resolve authorizing the Metropolitan Sewerage Commission to report upon a high level system from Worcester to the sea through Grafton, Westboro, Southboro, Ashland, South Framingham, Natick, the Welesleys to Newton and thence by the South Metropolitan system.

HARTFORD, CONN.—P. H. Harrison & Son, St. Paul Bldg., New York, have been awarded the contract for building sewers in Buckingham, Vine and Capen Sts., at $4,789 and $6,306, respectively.

ALBANY, N. Y.—Bids are asked by the city clerk until Feb. 20 for constructing sewers in three streets.

BUFFALO, N. Y.—Bids are asked until Feb. 15 for constructing a 20 and 15-in. pipe sewer in North Division St. R. G. Parsons, Secy. Bd. Pub. Wks.——We are informed that the board of aldermen has passed a resolution which has been approved by the council in behalf of a project to abate the Hamburg Canal nuisance in this city. The canal at present receives the contents of several sewers, and it is proposed to build a system of intercepting sewers. The resolution empowers the mayor to appoint an engineer to report on the best plan.

NEW YORK, N. Y.—Bids are asked Feb. 15 for constructing an outlet sewer and overflow at the foot of 26th and the North River, altering sewers in 10 streets and for building a sewer in 125th St., between Lenox and 8th Aves. Jas. Kane, Comr. of Sewers, 265 Broadway, Manhattan.

NIAGARA FALLS, N. Y.—Bids are asked by City Clerk Arkush for constructing new sewers to cost about $24,000.

ROCHESTER, N. Y.—Thos. Kearney has been awarded the contract for constructing a sewer in East Ave., at $20,947.

ROSELLE, N. J.—Judge John Cummings, Chn., B. F Carpenter, John C. Bender and Judge Noah Woodruff have been appointed a committee to prepare a bill to submit to the legislature for the incorporation of the village and for the construction of a system.

STEELTON, PA.—Bids are asked until Feb. 28 for constructing about 13 miles of pipe sewers, as described in our advertising columns. Alex. Potter, Consult. Engr., 137 Broadway, New York. J. D. Young, Secy.

HAGERSTOWN, MD.—Edward W. Mealey, of the commission, writes us that the question of building a system is being considered. A local paper states that Mayor Schindel has been authorized to secure estimates for constructing a system.

CINCINNATI, O.—Bids are asked until March 3 for constructing the Mill Creek trunk sewer. Geo. H. Spellmire, Clk. Bd. Cy. Affairs.——Bids will be asked at once by the board for constructing the proposed Camp Washington sewer to cost $100,000.

CLEVELAND, O.—Bids are asked until Feb. 17 for constructing sewers in six streets. Geo. R. Warden, Dir. Pub. Wks.

CLEVELAND, O.—Bids are asked until March 3 for constructing sewers in three streets. Geo. R. Warden, Dir Pub. Wks.——Bids will soon be asked for constructing the fourth and last section of the Walworth Run main sewer.

HAMILTON, O.—W. H. Louthan has been awarded the contract for building sewers in five streets, at about $4,000.

MASSILLON, O.—It is proposed to construct sewers in West Tremont, Cherry and Akron Sts. D. [illegible] Boston, Cy. Engr.

TOLEDO, O.—Bids are asked until Feb. 20 for constructing a 12-in. pipe sewer in certain streets. L. P. Harris, Cy. Clk.

WELLSVILLE, O.—The council is considering propositions from engineers for preparing plans for a system. D. A. Davidson, Cy. Clk.

INDIANAPOLIS, IND.—Bids are asked until Feb. 13 for constructing a sewer in First Alley. M. A. Downing, Chn. Bd. Pub. Wks.

MOUNT PLEASANT, MICH.—Bids are asked until March 1 for furnishing the materials and for constructing a system and water-works at the Indian Industrial School in this place. W. A. Jones, Comr. Indian Affairs, Washington, D. C.

CHICAGO, ILL.—Bids are asked until Feb. 15 for constructing pipe sewers in a number of streets. L. E. McGann, Pres. Bd. Local Improvements.

MATTOON, ILL.—John F. Leatt, Mayor, writes us that there is some discussion of the question of building sewers. Nothing is likely to be done for some time.

LA CROSSE, WIS.—T. H. Spence, Pres. City Council, writes us that the council may take action on the question of issuing $20,000 in bonds for an intercepting sewer on Feb. 10. Mayor McCord may be addressed.

NEENAH, WIS.—Bids are asked until 7 p. m. Feb. 11 for constructing an outfall sewer in Little Lake Butte des Morts. W. L. Davis, Chn. Bd. Pub. Wks.

ESTHERVILLE, IA.—It is proposed to construct sewers at a cost of $3,500. Boynton & Warringer, Engrs., Cedar Rapids, Ia.; M. L. Archer, Chn. Com.

FARGO, N. DAK.—It is proposed to build a trunk sewer. J. A. Johnson, Mayor.

ATCHISON, KAN.—Fred. Giddings, Cy. Engr., writes us that he has been directed to prepare plans and specifications for sewers in South Atchison, to cost about $37,000.

CLEBURNE, TEX.—A franchise for building and operating a system has been granted to Jack Steele, P. C Chambers and E. T. Kelly.

CRIPPLE CREEK, COLO.—An injunction has been granted restraining this city from buying the system for $65,000 built several years ago at a cost of $15,000.

AUBURN, CAL.—Surveys are being made for completing the system.

FOLSOM CITY, CAL.—The legislature has passed the bill appropriating $75,000 for a system at the state prison at this place. At present the sewage is discharged into the American River.

FORT BRAGG, CAL.—Bids are asked until Feb. 13 for extending the main sewer in several streets. Lester Perry, Clk.

PHOENIX, ARIZ.—We are informed that this place defeated on Jan. 24 the proposition to issue $265,000 in bonds for a system and water-works, there being objections to the personnel of the water commission. The old mayor resigned and the new mayor, C. J. Dyer, will probably call another election within the next 20 days. There are now good prospects of the proposition being carried. Ernest Abs Hagen, Engr.; Byrne Bldg., Los Angeles, Cal.

SANTIAGO, CUBA.—It is reported that the U. S. government, through Gen. Leonard Wood, will arrange for the construction of a system as soon as the harbor has been dredged.

GARBAGE DISPOSAL—STREET CLEANING

LOWELL, MASS.—It is stated that the board of health is securing information for a crematory.

BINGHAMTON, N. Y.—Plans for garbage collection have been presented to the board of health. A crematory to cost $10,000 is proposed. Population, 45,000.

JACKSONVILLE, FLA.—The board of public works is considering propositions for the purchase of a street sweeper.

PARKERSBURG, W. VA.—The question of erecting a crematory is being considered.

LOUISVILLE, KY.—The committee, consisting of Prof. E. H. Mark, Chas. F. Grainger, Health Officer Allen and Dr. R. B. Gilbert is preparing specifications for a crematory to cost about $60,000.

NEWPORT, KY.—W. L. Glazier, Cy. Engr., has been directed by the internal improvement commission to report fully on a crematory for this city. Mr. Glazier recently submitted a report in favor of a plant.

CLEVELAND, O.—Bids are asked until March 7 for cleaning the paved streets and alleys from April 15 to Dec. 15; check, $3,000. Geo. R. Warden. Dir. Pub. Wks.

COLUMBUS, O.—The Bryden Road Improvement Association has decided to adopt new methods for cleaning the streets of Bryden Road. N. B. Abbott, Pres.; O. A. Miller, Secy. and Treas.

STREETS AND ROADS

MANCHESTER, N. H.—Arthur W. Dudley, Engr., Brentwood, has submitted plans to the public improvement committee of the legislature for the proposed state highway from Seabrook to Fort Point, New Castle.

BOSTON, MASS.—Representative Howland, of Chelsea, has petitioned the legislature for the construction of a parkway in Chelsea, Revere and Everett, at a cost of $400,000.——Alderman Casey has requested the board of estimate to include $5,000 in the next loan bill for paving Lenox St.

PROVIDENCE, R. I.—The council will apply to the legislature for authority to borrow $100,000 for highways.

NEW HAVEN, CONN.—A contract has been awarded to F. Brazos, at $6,000, for about 18,000 cu. yds. of grading.

ALBANY, N. Y.—Superintendent of Parks Egerton has prepared plans for improving Delaware Ave., at a cost of about $10,000, and New Scotland Road.

BUFFALO, N. Y.—The council has passed a resolution to repair the approaches, roadways and sidewalks of the city bridges.

FULTON, N. Y.—Bids are asked by the village board until Feb. 23 for 2,200 sq. yds. of brick paving, 5,000 lin. ft. of stone curb, 1,000 cu. yds. of grading and 1,500 lin. ft. of 15 and 18-in. sewer, etc. O. C. Breed, Cy. Engr.

NEW YORK, N. Y.—The board of estimate and apportionment has authorized a bond issue of $2,000,000 for repaving. The money is to be apportioned as follows: Manhattan, $1,000,000; Brooklyn, $700,000; Bronx, $200,-000; Queens, $75,000; Richmond, $25,000.

ROCHESTER, N. Y.—The executive board has awarded a contract to Whitmore, Rauber & Vicinus, at $7,263 and $5,150 for asphalt and macadam paving, respectively.

ATLANTIC CITY, N. J.—A resolution has been introduced in the council which provides for the paving of Arctic Ave. with macadam, including blue stone curb and vitrified block gutters. J. W. Hackney, Cy. Engr.

BRIDGEPORT, N. J.—We are informed that the committee has been authorized, with Wm. M. Carter, Engr., Woodbury, to prepare plans, etc., for a macadam or shell road through this place.

JERSEY CITY, N. J.—Bids are asked by the street and water commissioners until Feb. 14 for paving, etc., in Stegman St. Geo. T. Bouton, Clk.

MIDVALE, N. J.—The county freeholders, Paterson, N. J., have received the following bids for macadamizing the main road through this place: Peter Bailey, $18,329; Francisco Bros. $15,075; Wright & Lindsley, $15,995; Colfax & Steele, $13,385; Daniels & Stanley, $18,328; Cook Bros., $14,140.

STOCKTON, N. J.—The Turnpike Co. will grade and pave Federal St., from Marlton Ave. to Cooper's Creek.

WOODBURY, N. J.—Bids are asked by the county freeholders until March 11 for macadamizing on Broad St., a distance of 4,204 ft., and for constructing a gravel road about six miles long, as described in our advertising columns. C. W. Starr, Dir.; William M. Carter, Engr., 127 South Broad St., Woodbury.

DARBY, PA.—Bids will soon be asked by the town clerk for macadamizing Pine St., to cost about $10,000.

ROCKLEDGE, PA.—The question of issuing $20,000 of bonds for macadamizing the streets of the town is being considered.

WILLIAMSPORT, PA.—The city clerk informs us that $8,000 has been appropriated for paving. Nothing has been done yet.

BALTIMORE, MD.—The board of estimates has recommended the proposed macadamizing of Clifton Ave., 13th St. and Walbrook Ave.——The park board, the water board and the city commissioners are negotiating for cooperation for paving Washington St., between North Ave. and Clifton Park.

WASHINGTON, D. C.—Bids are asked by the district commissioners until March 4 for quarrying and crushing stone, as stated in our advertising columns.——Congress has passed bills for constructing a roadway across Rock Creek Park, extending Pennsylvania Ave. southeast to the district line and extending New Hampshire Ave. from Whitney Ave. to Brightwood Ave.

ATHENS, GA.—W. W. Turner, Clk., informs us that the question of issuing $100,000 of bonds for street improvement will be determined Feb. 27. J. W. Barnett, Engr.

COLUMBUS, GA.—The council has passed an ordinance to improve the sidewalks throughout the city. L. H. Chappell, Mayor; M. M. Moore, Clk.

LOUISVILLE, KY.—Bids are asked by the board of public works until 12 m., Feb. 9, for furnishing material and grading, recurbing and laying brick sidewalks on portions of nine streets.

NEWPORT, KY.—The council has authorized the macadamizing of 18 squares of streets with combined concrete curb and gutters and brick paving on one square with the same curbing, etc. W. L. Glazier, Cy. Engr.

BATAVIA, O.—Bids are asked until March 1 for furnishing material and constructing portions of six turnpikes, a distance of about five miles. John W. Davis, County Auditor.

CLEVELAND, O.—Bids are asked until Feb. 16 for grading, curbing and draining portions of five streets, and brick paving, etc., on six streets; until Feb. 18 for grading, etc., portions of nine streets; until March 2 for asphalt, brick, Medina dressed block and Medina stone paving and grading, curbing, etc., on certain streets, and until March 4 for grading, brick paving, etc. Geo. R. Warden, Dir. Pub. Wks.

EAST LIVERPOOL, O.—J. A. George, Cy. Engr., has completed a survey of the Calcutta Road and will soon survey Trentvale St. Both of these roads will be improved in the spring.

ELYRIA, O.—S. B. Dudley, County Comr., Oberlin, informs us that the question of constructing the proposed limestone or gravel road will be decided at the election April 3; estimated cost, $250,000.

PORTSMOUTH, O.—Bids are asked until Feb. 27 for about 23,000 sq. yds. of brick paving, according to reports. J. C. Adams, Cy. Clk.

TOLEDO, O.—The committee has decided in favor of the proposed improvement of Summit Ave., to have a grass plat in the center 15 ft. wide and paving on each side 32 ft. wide. W. F. Brown, Cy. Engr.

BEDFORD, IND.—Bids are asked until March 3 for constructing portions of 10 roads. John M. Gainey, Audr.

FORT WAYNE, IND.—F. M. Randall, Cy. Engr., will prepare plans for paving Maumee Ave. and Lillie St. eastward to Walton Ave.

KOKOMO, IND.—The Capitol Paving & Construction Co., Indianapolis, Ind., has been awarded a contract, at $17,720, for about 11,000 sq. yds. of brick paving and 5,000 lin. ft. of curbing. Chas. R. Ford, Cy. Clk.

DETROIT, MICH.—H. D. Ludden, Cy. Engr., has reported that there is about 2,000,000 sq. yds. of cedar block pavement that will have to be repaired within the next three years; estimated cost, $800,000 a year.

LAKE BLUFF, ILL.—This place will construct a section of road through the village the coming season.

PEORIA, ILL.—A. D. Thompson, Cy. Engr., has submitted estimates for paving Cutler St., 4,931 sq. yds., with asphalt, at $11,553; Malvern St., 3,661 sq. yds., with asphalt, at $8,125; University Ave., 6,971 sq. yds., with brick, at $13,382. About 22,000 sq. yds. of brick paving have been authorized on portions of Elizabeth, South Adams and other streets.

QUINCY, ILL.—The proposed paving to be constructed next season will cost about $25,000.

WAUKEGAN, ILL.—It is proposed to extend the Sheridan Road through Lake county to Lake Bluff.

EAU CLAIRE, WIS.—A contract has been awarded to A. R. Rutledge & Co., Rockford, Ill., at $13,208, for brick paving.

LA CROSSE, WIS.—T. H. Spence, Pres. Council, informs us that a proposition to pave three or four blocks with brick this year is being considered.

ST. PAUL, MINN.—Bids are asked until Feb. 13 for grading on Hatch St. C. H. Bronson, Clk. Bd. Pub. Wks.

SIOUX CITY, IA.—The question of paving certain streets with brick or asphalt this spring will be decided about March 1. Wm. J. Radcliffe, Chn. Com.

JOPLIN, MO.—Bids are asked until March 7 for asphalt paving, according to reports. S. J. McKee, Cy. Engr.

KANSAS CITY, MO.—Bids are asked by the board of public works until Feb. 12 for constructing brick, stone and plank sidewalks on portions of 22 streets. Henry A. Wise, Cy. Engr.——The park board has instructed the engineer to make a survey for the proposed boulevard on Lydia Ave.

HOUSTON, TEX.—The council has decided to pave Houston and McGowen Aves.

SHERMAN, TEX.—Travis St. is to be repaved between Pecan St. and Court Plaza.

ATCHISON, KAN.—We are informed that Fred. Giddings, Cy. Engr., has completed plans, etc., for repaving South Fourth Ave. with brick, for which the contract will be let in February; including, 16,555 sq. yds. of paving, 724 lin. ft. of new curb, 400 lin. ft. of curb to reset and 5,200 lbs. of cast-iron bridge plates. Plans will also be ready about the middle of February for 6,100 sq. yds. of brick paving and 3,100 lin. ft. of cement curbing, on Division St.

POTWIN, KAN.—An effort is being made to pave Greenwood and Woodlawn Aves. with brick or asphalt; also the cross streets with the same material.

OLYMPIA, WASH.—Senator Baker has introduced a bill for an appropriation of $25,000 for a road from Lyle to Washougal, and Senator Keith for $20,000 to complete the road from Buckley to Yakima.

MANUFACTURING PLANTS.

BRATTLEBORO, VT.—The plant of S. H. Smith & Co., manufacturers of toys, etc., was damaged by fire, Feb. 1; estimated loss, $75,000.

ALLEGHENY, PA.—The foundry and machine shop of the Carlin Mfg. Co., on Preble Ave., was damaged by fire, Feb. 1; estimated loss, $25,000.

PHILADELPHIA, PA.—It is reported that Teutelman Bros. & Fayer propose to build a 4-story addition to the mill on Adams St., Frankford, to cost about $150,000.—— A fire at Manayunk, Jan. 31, destroyed the weaving and machine department of Thomas Caves & Son's Canton mills, causing a reported loss of $90,000; fully insured. John P. Holt, Owner.

BALTIMORE, MD.—Henry Brauns, Builders' Exchange, is preparing plans for new buildings to be erected at Sparrows Point for the Maryland Cement Co., including a storehouse, 75 × 120 ft., an office and laboratory, 16 × 48 ft., and a 2-story material building, 40 × 60 ft. Frank H. Sloan, Pres.

ENSLEY, ALA.—The Sterling Boiler Co., Pittsburg, have been awarded the contract for furnishing 14 boilers for the Alabama Steel & Wire Co.'s new rod and wire mill. The boilers will cost $60,000 and produce 6,000 HP. Both the steel plant and the rod mill will be in operation by June 1.

DETROIT, MICH.—The Clough & Warren Co.'s 4-story piano factory, at Congress, West and 6th Sts., was damaged by fire, Feb. 2; estimated loss, $75,000.

GRAND RAPIDS, MICH.—Wm. H. Gilbert & F. C. Miller have announced their intention to build a beet sugar plant in this city, to cost complete about $250,000.

MOLINE, ILL.—C. R. Stephens, Supt. of Moline Plow Co., informs us that bids will be received about Feb. 20 for the erection of one 2-story foundry building, 150 × 170 ft., with steel frame, brick walls, tile roof and floors, steam heat and electric lights, and also for one 10-story warehouse, 150 × 150 ft., with steel posts and stringers, wood joists and floors, brick walls, gravel roof, electric light and sprinklers; estimated to cost $90,000. Bids will also be received during March for from $20,000 to $30,000 worth of machinery, including one 200-HP. engine, two 66-in. × 16-ft. tube boilers, one 800-light dynamo, one blower, one exhaust fan, 24 rattle boxes, scrap and casting conveyors, one 72-in. cupola, three elevators, etc. W. L. Paul, Arch., care of Moline Plow Co., Moline.

CLOVERDALE, CAL.—The Moulton Hill winery, owned by L. Landsberger, San Francisco, Cal., was damaged by fire, Feb. 5; reported loss, $70,000.

GAS PLANTS.

NEW YORK, N. Y.—Bids are asked by the department of correction, 148 East 20th St., until Feb. 20, for furnishing gas at the Kings County Penitentiary, the city prisons and on Blackwell's Island, for the year 1899. Francis J. Lantry, Comr.

OGDENSBURG, N. Y.—The Ogdensburg Gas Co. has awarded a contract to J. H. Gautier & Co., Jersey City, N. J., for installing new benches and retorts and to Dilly & Fowler, Philadelphia, Pa., for constructing a new gas holder. H. A. Sage, Pres., Easton, Pa.

LITCHFIELD, CONN.—T. W. Marsh and others have applied to the legislature for authority to construct gas works in this place, according to reports.

TORRINGTON, CONN.—Hotchkiss Bros. & Co., Torrington, have been awarded a contract by the Torrington Electric Light Co. for erecting a generating house, 25 × 30 ft.; an engine and boiler house, 40 × 30 ft., and a purifying house, 22× 60 ft.

ANN ARBOR, MICH.—It is reported that the Ann Arbor Gas Light Co. is having plans prepared for a new plant, to cost $4,000.

FORMAN, N. DAK.—The county commissioners are considering the question of installing an acetylene gas plant at the court house.

DARLINGTON, OKLA. TER.—Bids are asked by the department of the interior, Washington, D. C., until Feb. 28, for furnishing and constructing a gasoline gas plant at the Arapaho boarding school, Cheyenne and Arapaho agency. Maj. A. E. Woodson, Acting Indian Agent, Darlington; W. A. Jones, Comr., Washington.

SPOKANE, WASH.—The Spokane Falls Gas Light Co. is preparing to extend its works this spring and summer. A new plant will be constructed at Stevens St. and Railroad Ave., with an increased capacity from 130,000 cu. ft. to 250,000 cu. ft. of gas per day. The improvements will consist of a new exhauster, two annular condensers, one multitubular scrubber and one ordinary scrubber, each 4 ft. in diameter and 20 ft. high; two purifiers, each 12 ft. by 16 ft., 4 ft. deep; one stationary meter and connections, 7 ft. in diameter and 7 ft. long. New 10-in. mains will be laid, at a cost of $10,000. The company will also construct coal bunkers, with a capacity of 1,000 tons, at the yards of the Oregon R. R. & Navigation Co., near Division St. Arrangements are being made to order the necessary machinery from the east at once. Work on the plants will be under way by May 1, and everything is to be completed by August. A. D. Hopper, Treas. and Supt.; W. A. Aldrich, Secy.

BELLEVILLE, ONT.—Reports state that the Belleville Gas Co. proposes to construct a larger main on Bridge St. east this spring.

NEW COMPANIES.—Markleville Citizens' Gas & Oil Co., of Markleville, Ind.; $8,000; to drill for natural gas and oil wells; T. R. McCullough, J. D. Judd, J. Vandyke.

Central Oil & Gas Co., Cincinnati, O.; $1,000,000, with $100 paid in; O. F. Hotstein, F. E. Mackentepe, E. A. Trautman, W. T. Todd, P. S. Briggs.

Davis Development Co., Cincinnati, O.; $100,000, with $100 paid in; to develop oil and gas; J. Brashears, G. C. Renwer, C. E. Fowler, W. W. Doggett, F. E. Mackentepe.

Dunn Station Oil & Gas Co., Pittsburg, Pa.; $1,200, with $120 paid in; to mine for and produce and sell petroleum oil and natural gas; William R. Christian, Treas.; John R. Rush, Chas. B. McLean, Pittsburg, Pa.; Timothy Ross, Ira G. Hoge, Dunn Station, Pa.

Eaton Co-operative Gas Co., Eaton, Ind.; $3,000; to sink gas and oil wells; W. Bost, B. Haynes, S. J. Peck, R. H. Boyd, C. M. Lackey, Edward Shideler, Eli Peterson.

World Acetylene Gas Co., Minneapolis, Minn.; $30,000; to manufacture gas generators; L. E. Codd, E. Smith, M. H. Schussler.

Oregon Oil Co., Hanford, Cal.; to develop oil lands; C. R. Brown, R. A. Talbot, E. H. Walker, J. S. Sansabaugh.

West Hoboken Gas Co., Second National Bank Bldg., Hoboken, N. J.; $95,000; to supply and distribute illuminating gas; Thomas C. Barr, Orange; A. R. Kuser, Newark; Chas. Eickhorn, West Hoboken; Frederick A. Schwartz, H. J. Lemmer and eight others.

North Bergen Gas Co., Hoboken, N. J.; $50,000; incorporators the same as those of the West Hoboken Gas Co.

Cadiz Oil & Gas Co., Cadiz, O.; $10,000; to drill for oil and gas; R. A. McCormick, S. S. Johnson, C. W. Brown.

Summit Oil & Gas Co., Cadiz, O.; $10,000; C. N. Brown, S. S. Johnson, John Stubbins, H. B. Law, W. Clifford.

Hoboken Gas Co., Second National Bank Bldg., Hoboken, N. J.; $300,000; to supply and distribute illuminating gas; incorporators the same as those of the West Hoboken Gas Co.

Binghamton Gas Engine Co., Binghamton, N. Y.; to manufacture and sell gas engines; M. L. Deyo, H. A. Niles, D. H. Carver, R. H. Deyo, William B. Carver.

MISCELLANEOUS CONTRACTS.

DREDGING.—Herkimer, N. Y.—A bill will be presented to the legislature to appropriate $15,000 for dredging West Canada Creek.

IRON FLAGSTAFFS.—St. Louis, Mo.—Bids are asked until March 6 for 6 100-ft. iron flagstaffs. Col. G. C. Smith, Dept. Q. M.

PARK WORK.—Pueblo, Colo.—The park commissioners have decided to extend the southern boundary of Mineral Palace Park to 15th St.

DRAINAGE CANAL.—New Iberia, La.—J. E. Kerrigan has completed about 4½ miles of survey for a drainage canal from this city to the gulf.

LEVEE WORK.—Newport, Ark.—Bids are asked by the levee commissioners until Feb. 11 for about 37,000 cu. yds. of levee work. A. D. Bailey, Secy., Newport.

LEVEE WORK.—Benton, La.—Bids are asked by the commissioners of Bossier levee district until Feb. 14 for certain levee work. J. W. Jeter, Pres., Benton.

PARK WORK.—Chicago, Ill.—Bids are asked by the West Chicago park commissioners until Feb. 14 for about 3,210 cu. yds. of black soil and 2,583 cu. yds. of excavation.

WHARF.—Rock Point, Md.—Bids are asked until March 8 for constructing a wharf, as stated in our advertising columns. Col. Peter C. Hains, U. S. Engrs., 812 St. Paul St., Baltimore, Md.

DREDGE BOAT.—Sabine Pass, Tex.—Bids are asked until April 6 for constructing a dredge boat for work in the harbor. Maj. James B. Quinn, U. S. Engr., Custom House, New Orleans, La.

DRAINAGE DITCH.—Ponca, Neb.—Bids are asked until March 14 for constructing a drainage ditch 3¾ miles long, requiring about 26,407 cu. yds. of excavation. J. F. Ekeroth, County Clk.

TELEPHONE SERVICE.—New York, N. Y.—Bids are asked by the department of correction, 148 East 20th St., until Feb. 20 for telephone service for the year 1899. Francis J. Lantry, Comr.

GUN STOCKS.—Springfield, Mass.—Bids are asked until Feb. 23 for furnishing f. o. b. cars, 300,000 black walnut gun stocks in the rough. Lieut.-Col. Isaac Arnold, Ordnance Dept., Springfield.

TELEPHONE SYSTEM.—Kansas City, Mo.—It is reported that Geo. F. Putnam is organizing a company with $300,000 capital stock and will apply for a franchise to operate a telephone system.

DRY DOCK.—Boston, Mass.—O'Brien & Sheehan, 258 Broadway, New York, have been awarded the contract, at $857,200, for constructing the granite dry dock, 750 × 100 × 30 ft., at the navy yard.

LUMBER AND NAILS.—Cuba.—Bids are asked by Col. J. G. C. Lee, 415 Pullman Bldg., Chicago, Ill., until Feb. 15 for furnishing at points in Cuba, 8,000,000 ft. of lumber and 1,300 kegs of wire nails.

DREDGING, ETC.—Buffalo, N. Y.—The council has passed resolutions for dredging, etc., to a depth of 20 ft., portions of Buffalo River, Buffalo Harbor, Blackwell Canal and Peck Slip. Frank W. Gethoefer, Cy. Clk.

DOCK WORK.—Berkley, Va.—The Norfolk & Southern R. R. Co. will expend about $100,000 for constructing docks, wharves, warehouses, etc., at this place, according to reports. M. K. King, Gen. Mgr., Norfolk, Va.

PILE PLATFORM.—Boston, Mass.—Bids are asked by the harbor and land commissioners, 131 State House, until Feb. 21 for constructing a pile platform on the South Boston flats, as stated in our advertising columns.

TELEPHONE WORK.—Snowhill, Md.—The Worcester Telephone Co. has awarded a contract to H. S. Smith, Clayton, Del., at $1,800, for installing a complete telephone system in this town, to be completed in 60 days.

DRY DOCK.—Quebec, Que.—The board of trade and harbor commissioners propose to send a delegation to Ottawa to urge the government for the construction of a single and double graving dock on the Quebec side of the river.

PIER SUBSTRUCTURE.—Duluth, Minn.—A contract has been awarded to P. McDonnell, Duluth, at $149,000, for constructing the substructure of the north pier, Duluth ship canal. Maj. Clinton B. Sears, U. S. Engr., Duluth.

PIER WORK.—New York, N. Y.—The dock board has completed plans for the construction of four new piers, at Pike and Rutgers Sts., East River, 425 ft. long and 80 ft. wide each; estimated cost, including bulkhead wall 800 ft. long, $460,000.

TELEPHONE WORK.—St. Joseph, Mo.—Reports state that the Hinlock Co. of St. Louis has secured a franchise in Chicago, Ill., and proposes to construct a line to St. Joseph in connection with the Citizens Co. Z. T. Miller, St. Louis, may be addressed.

TELEPHONE FRANCHISE.—Pittsburg, Pa.—An ordinance is before the council to grant a franchise to the Pittsburg & Allegheny Telephone Co., which proposes to install about 3,600 instruments, according to reports. J. S. Dawson Speer is interested.

TELEPHONE WORK.—Redlake Falls, Minn.—It is reported that the question of having a telephone system in this place is being considered. E. M. Walsh, Mgr. of the Crookston Co., Crookston, Minn., has been consulted in the matter, according to reports.

FIRE ALARM EXTENSION.—Chicago, Ill.—City Electrician Ellicott has asked for an appropriation of $30,000 to be used in laying fire alarm cables from the Englewood office at 63d St. and Wentworth Ave. to the city hall to make complete connection with that district.

BOILER, REPAIRING HULL, ETC.—New York, N. Y.—Bids are asked by the department of public charities, East 26th St., until Feb. 20, for furnishing and installing a new boiler and general overhauling of the hull, machinery and equipments of the steamer "Fidelity."

SUBWAYS.—Boston, Mass.—Senator Innes has presented a petition of Mayor Josiah Quincy for new subways on Washington St. or Harrison Ave., from the Boston & Albany R. R. to about Causeway St.; also for a subway from near Otter St., under Beacon Hill, to Scollary Square.

BULKHEAD WORK.—Savannah, Ga.—Bids are asked by the Georgia Construction Co., until 12 m., Feb. 14, for dredging, pile driving and bulkhead work on Hutchinson's Island, Savannah, for the Georgia & Alabama Terminal Co., as stated in our advertising columns. A. H. Johnson, Ch. Engr., Savannah.

HARBOR WORK.—Barnstable, Mass.—A petition has been presented to the legislature by A. P. Eagleston, authorizing the harbor and land commissioners to expend $20,000 for the improvement of the main channel from Nantucket Sound into Lewis Bay, Barnstable, and through such bay to the inner bay and harbor adjacent to the wharves at Hyannis.

TELEPHONE WORK.—Asbury Park, N. J.—Application will soon be made to the council by the New York & New Jersey Telephone Co. for permission to place its wires underground in this place. Work will soon be commenced for placing three miles of telephone wire in 6-in. creosoted conduits, one foot underground, along Ocean Ave., between West End and Elberon.

MINING CONCESSION.—Pekin, China.—William Pritchard Morgan, M. P., of Merthyr Tydvil, Wales, has been awarded a mining concession in the Province of Szechuan, in partnership with an American syndicate and Chinese authorities. The concession includes the control of all the mines and oil fields in the province. It is proposed to begin operations with a capital of about $5,000,000.

WHARF AND BOATHOUSE.—Fort Barrancas, Fla.—John Simpson, Ch. Q. M., Atlanta, Ga., informs us that the following bids were received Jan. 31 for constructing a wharf and boathouse: J. W. Gardner, 505 Tchoupitoulas St., New Orleans, La., $18,059; Henry Monk, 1223 Pine St., Nashville, Tenn., $8,515; Grant Wilkins, Peachtree St., Atlanta, Ga., $17,300; C. H. Turner, P. O. Box 64, Pensacola, Fla., $11,919.

PILE PROTECTION, ETC.—Carthage, O.—The county commissioners and board of control have decided to protect the Hamilton County Fair Grounds from further encroachments of Mill Creek. Frank S. Krug, County Engr., has submitted plans for 400 lin. ft. of double row piling and 3,000 lin. ft. of single row piling; estimated cost, $7,800. The legislature has authorized the issue of $10,000 for improving the grounds and buildings.

TUNNEL.—New York, N. Y.—Local papers state that new capital is being secured for continuing the construction of the Hudson River tunnel to 15th St., Jersey City. On the New York side from Morton St. the unfinished tunnel extends 260 ft. into the river, and on the New Jersey side about 3,000 ft. Work will be resumed as soon as the Hudson River Tunnel Ry. Co. has been reorganized. The company's total indebtedness is $3,916,874. Stetson, Jennings & Russell, 15 Broad St., New York, represent the American bondholders, and Daniel Lord, 120 Broadway, represents the English bondholders. Horace E. Golding, 99 Cannon St., E. C., London, and John Young, London, are interested. Charles Sooysmith & Co., Contracting Engrs., Mills Bldg., New York, have been retained to make a report on the condition of that part of the tunnel which has already been constructed, and also to make a preliminary survey and estimate of the cost of completing the enterprise.

CONTRACT PRICES.

WATER PIPE, ETC.—Atlanta, Ga.—Park Woodward, Supt. Water-Wks., received the following bids, Jan. 28, 1899, for furnishing 180 tons of 6 to 16-in. cast-iron water pipe and special castings:

	A ton.	Specials.
*[1]American Pipe & Foundry Co.	$18.75	$0.02
[2]Glamorgan Pipe & Fdy. Co.	19.50	.02½
[3]R. D. Wood & Co.	21.00	.02
**[4]Addyston Pipe & Steel Co.	21.85	.02½

*Awarded contract. **6-in. pipe; $20.85 for 8 to 16-in. pipe. [1]Chattanooga, Tenn. [2]Lynchburg, Va. [3]Philadelphia, Pa. [4]Cincinnati, O.

GUN FORGINGS.—Washington, D. C.—We are informed that the bureau of ordnance, War Dept., received the following bids, Feb. 1, 1899, for furnishing gun forgings: Bethlehem Iron Co., South Bethlehem, Pa., 23 cts. a lb.; Midvale Steel Co., Philadelphia, 23 cts.

PIER SUBSTRUCTURE.—Duluth, Minn.—We are informed that Maj. Clinton B. Sears, U. S. Engr., Duluth, received the following bids Feb. 1 for building a substructure for the north pier of the Duluth ship canal, as advertised in Engineering News; amount available for improving the harbors at Duluth, Minn., and Superior, Wis., is about $538,000, and the amount proposed to be expended on this work is about $175,000:

BRICK PAVING.—Eau Claire, Wis.—We are informed that the following bids were received Jan. 30, 1899, for about 9,349 sq. yds. of brick paving in Barstow and Kelsey Sts., as advertised in Engineering News; contract awarded A. R. Rutledge & Co.; C. A. Alderman, Cy. Engr.:

Bidder.	Brick—Galesburg, Des Moines Brk Mfg. Co.	Brick—Iowa Brick Co.	Curb.—Setting, new.	Curb.—Resetting & relining, old.
A. R. Rutledge & Co., Rockford.	$1.30	....	$0.60	$0.06
Felidding & Shepley, St. Paul.	....	$1.41	$1.41	.46	.05
Wm. Horrabin, Iowa City, Ia.	1.40	....	1.38*	.50	.07
J. B. Canney, Minneapolis.	1.31	1.29	1.29	.46	.06
Winona (Minn.) Const'n Co.	1.32	....	....	.50	.10
Smith, Moss & Brown, Chicago.	1.43	1.36	1.36	.60	.20
Charles Stone, St. Paul.	1.85	1.80	....	.50	.10

*Three bids, Iowa Brick Co.'s brick, $1.31 for standard; $1.33 for side cut, and $1.38 for side-cut repressed.

PAVING.—Houston, Tex.—We are informed that the following bids were received Jan. 9 for repaving Main St., from Franklin Ave. to McKinney Ave.:

Bids Received at Houston, Tex., Jan. 9, 1899, for Repaving Main St., from Franklin Ave. to McKinney Ave.

Quantities.		Franklin Fireproofing Co.	Barber Asphalt Paving Co.	The Ayers Asphalt Paving Co.	Louisiana Improvement Co.	R. C. Storrie	Hipp & Key.
Grading	8,500 cu. yds.	$0.26	$0.35	$0.25	$0.18	$0.40	$0.50
Stone curbing	4,500 lin. ft.	.71	.48	.45	.49	.58	.55
Stone headers	940 " "	....	.40	.40	.30	.50	.30
Cast-iron foot plates	22,000 lbs.	.02½	.01¾	.01½	.02	.02¼	.01¾
Laying sheet asphalt, 6-in. concrete of broken stone and American natural hydraulic cement	19,000 sq. yds.	....	1.99	1.90	1.92	2.25	...*
		....	2.24	2.15	2.12	....	...†
Broken stone and Portland cement	19,000 " "	....	2.27	2.00	2.06	2.40	...*
		....	2.52	2.25	2.21	....	...†
Sheet asphalt, 6 ins. concrete of gravel and Am. natural hydraulic cement	19,000 " "	....	1.99	1.90	1.87	....	...*
		....	2.24	2.15	2.07	....	...†
Gravel and Portland cement	19,000 " "	....	2.27	2.00	2.01	....	...*
		....	2.52	2.25	2.16	....	...†
Rock asphalt, 6 ins. concrete of broken stone & Am. nat. hydraulic cement	19,000 " "	2.37	....	....	....	2.20	1.85*
		....	....	....	....	....	2.05†
Broken stone and Portland cement	19,000 " "	2.58	....	....	....	2.35	2.05*
		....	....	....	....	....	2.25†
Gravel and American natural hydraulic cement	19,000 " "	2.30	....	....	....	....	1.80*
		....	....	....	....	....	2.00†
Gravel and Portland cement	19,000 " "	2.42	....	....	....	....	1.98*
		....	....	....	....	....	2.18†
Vitrified brick, 6 ins. concrete of broken stone and Am. nat. hydraulic cem't	19,000 " "	....	....	....	....	2.25	...‡
		....	....	....	....	1.90	1.85‡
Broken stone and Portland cement	19,000 " "	....	....	....	....	2.40	...‡
		....	....	....	....	2.05	1.99‡
Gravel and American natural hydraulic cement	19,000 " "	....	....	....	....	....	1.80‡
Gravel and Portland cement	19,000 " "	....	....	....	....	....	1.95‡
Telford macadam	19,000 " "	....	....	....	....	....	1.00
Concrete—Am. natural hydraulic cement and broken stone	400 cu. yds.	5.35	5.75	5.20	6.00	5.50	.79
Concrete—Portland cement and broken stone	400 " "	6.39	7.40	5.80	6.50	7.00	.98
Concrete—Am. natural hydraulic cement and gravel	400 " "	4.95	5.75	5.20	5.00	....	.74
Concrete—Portland cement and gravel	400 " "	5.85	7.40	5.80	5.40	....	.92
Overhaul a cu. yd. per 100 ft. over max. free haul		.00½	.01¾	.02	.05	.02½	.03
Belgian block headers a sq. yd.		....	....	3 75	2.75	....	4.50

Guarantee: *5 years; †10 years; ‡5 years with Pittsburg brick; ‡5 years with Garrison brick.

The bid of the Ayers company was recommended for acceptance; they offer to maintain after first 5 years at 7½ cts. a yard per year; American Surety Co., of New York, as surety on bond, and will complete work within 60 days from order to commence work. The Louisiana Imp. Co.—For maintenance per sq. yd. per year after expiration of 5 years' guarantee: 6th year, 3 cts. per sq. yd.; 7th year, 4 cts.; 8th year, 5 cts.; 9th year, 6 cts.; 10th year, 7 cts. Hipp & Key.—For maintenance after expiration of first 5 years, 3 cts. a sq. yd. a year.

DREDGING.—Portage Lake, Mich.—We are informed that Maj. Clinton B. Sears, U. S. Engr., Duluth, Minn., received the following bids Feb. 3, 1899, for dredging in the Portage Lake ship canals, as advertised in Engineering News; Hingston & Woods' bid recommended for acceptance; Section 1 has 476,081 cu. yds., and Section 2 1,256,751 cu. yds.:

Bidder.	Dredging, per cu. yd.—Sec. 1.	Sec. 2.	Dredging plant, per hr.	Total.
Duluth Dredge & Dock Co.	$0.27	$0.15	$12.00	$317,055
J. Pryor, Houghton, Mich.	.24	.12	10.00	265,070
S. O. Dixon, Racine, Wis.	.26	.125	12.50	280,875
Hingston & Woods, Buffalo	.11	.09	12.00 } 30.00 }	165,477
Carkin, Stickney & Cram.†	.15	.11	14.00	209,655
Lydon & Drews Co., Chicago.	.119	.10	15.00	184,329
J. H. Gillett, Marquette.	.175	.125	15.00	240,408
A. H. Vogel, Milwaukee.	.27	.135	15.00	298,203
A. F. Bues, Milwaukee.	.26	.13	12.00	287,159

*Scow measurement. †Detroit.

SHELL PAVING.—Jacksonville, Fla.—J. D. Smith has been awarded the contract for furnishing the material and for paving 22,267 sq. yds. of street in the western part of the city, at 35 27-100 cts. a sq. yd. The only other bid was submitted by J. E. Bryan, at 45 cts.

STOP COCKS.—Detroit, Mich.—The Michigan Brass & Iron Works, Detroit, submitted the lowest bids Jan. 17, 1899, for furnishing stop-cocks, at $4.32 a dozen for ⅝-in. and $6.72 a dozen for 1-in.

TIMBER.—Boston, Mass.—The street department received the following bids, Jan. 27, 1899, for furnishing such spruce timber as may be required during the year: Curtis & Pope Lumber Co., $15.20 a 1,000 ft., B. M., delivered in South Boston; $16.95, East Boston; Charlestown, $16.50; $16.45, Brighton; $16.44, West Roxbury; $15.90, Dorchester; $15.20, Roxbury, and city proper, no charge for planing; A. M. Stetson & Co., $15, delivered in South Boston; $15.70, city proper; 90 cts., for planing. S. Fuller & Son, $16.75, South Boston and East Boston; $15.75, Charlestown and West Roxbury; $15.40, Brighton and city proper; $15.90, Dorchester and Roxbury, no charge for planing.

ELECTRIC LIGHTING.—Eau Claire, Wis.—C. A. Alderman, Cy. Engr., writes us that the council has awarded a 5-year contract for city lighting to the Eau Claire Light & Power Co., on the following basis: For 50 or more 2,000-c. p. arc lights, $74 a light a year; incandescent lights (16-c. p), $9 a light a year on streets and bridges, $6 a light a year in city buildings and hose houses, except that the council chamber is to be lighted at 15 cts. a 1,000-watts, the company to furnish all apparatus including lamps and meter. This bid is in accordance with a new franchise and specifications upon which the city received the bids. All lights to burn all night and every night on streets.

Bids Received at Duluth, Minn., Feb. 1, 1899, for Constructing a Pier Substructure.

Quantities.		Engle, Osman & Schleunes, Duluth.	Butler-Ryan Co., St. Paul.	Barnett & Record Co., Minneapolis.	King & Steele, Duluth.	Lang & Stone, St. Paul.	Hugo Tims, Duluth.	P. McDonnell, Duluth.
Dredging (scow measurement)	20,000 cu. yds.	$0.27	$0.20	$0.26	$0.15	$0.25	$0.25	$0.11
Accessory work: Pine or fir timber	25,000 ft. B.M.	20.00	20.00	18.00	22.00	19.25	20.00	20.00
Round piles, in place	15,000 " "	.15	.11	.103	.11	.12	.15	.12
Machine bolts, in place	3,400 lbs.	.02	.02¼	.02	.03¼	.03	.03	.01¾
Cast or wrought iron washers	1,800 " "	.02	.01¾	.01¾	.02	.01¾	.02	.01½
Wire rope	1,800 lin. ft.	.25	.18	.15	.10	.12	.10	.10
Rock in work (short tons)	32,000 tons	.85	.83	.90	1.00	.90	.70	.70
Gravel in place in work	7,000 cu. yds.	.70	.60	.95	.70	.51	.40	.30
Use dipper dredge plant complete	100 hours	16.50	15.00	15.00	15.00	15.00	15.00	20.00
Pile driver plant, etc., complete	150 " "	6.00	5.00	6.00	7.25	6.00	5.00	8.00
Canal pier, cribs, in place, complete	1,722 lin. ft.	184,792	121,250	147,000	167,844	186,649	134,422	116,500
If patch bolting* is omitted will reduce to		182,552	500*	1,000*	160,000	186,529	132,680	116,000
Total with under water patch bolting		228,146	160,833	192,415	212,858	229,050	169,940	148,967
Total without under water patch bolting		225,906	160,333	191,415	205,014	228,930	168,148	148,467

*In case patch bolting under water is omitted the 1,722 lin. ft. of cribs, etc., will be reduced.

TRANSPORTATION.—Manila, Philippine Islands.—The following are the bids received, Feb. 1, by the deputy quartermaster, U. S. A., Army Bldg., Whitehall St. New York, for the transportation of about 16,000 Spanish soldiers now in Manila or in other parts of the Islands from Manila to Spain; bids were opened at the same time in San Francisco: The Bordeaux Steamship Co., $75 per capita for both officers and privates; The Hamburg Union Line, privates, $85 each; officers, $115, the number at those figures being limited to 800 persons; The Compania Transatlantica, through J. M. Ceballos & Co., privates, $78.75; head officers, $215.

GAS LIGHTING.—Cleveland, O.—The board of control received the following bids, Jan. 28, 1899, for furnishing gas lamps with Welsbach burner and mantle, lighting and otherwise caring for them for the period of one year, the specifications calling for a 70-c. p. lamp: Daykin Bros., $14.95 on a basis of 2,750 lamps and $13 65 on a basis of 3,000 lamps; The Globe Light & Heat Co., Chicago, through Frank Maney, 809 Cuyahoga St., Cleveland, $18 a lamp. It is proposed to supply four times the light with three feet of gas, whereas the present lamps burn 4½ ft. of gas and furnish 18 c. p. The difference is in the burner and mantle. Under the old contract the city paid $3.75 for caring for the lamps, and there was no special burner attached.

SUBWAY MATERIAL.—Baltimore, Md.—The American Vitrified Conduit Co., 39 Cortlandt St., New York, has been awarded the contract, at 4¾ cts. a duct ft., for furnishing 1,000,000 duct ft. of subway tiling to be used in the construction of the underground electrical system. The contract is for multiple ducts. The prices submitted by this firm are said to have ranged from 4¾ cts. to 7 cts. There were eight bidders, and their prices ranged from 3 cts. to 12 cts. a foot. The style of conduit material also varied from clay tiling to iron duct with cement lining. The size of the conduit or the number of ducts it contained also varied considerably. The style of conduit selected is clay with multiple ducts of 2, 3, 4, 6, 9, 12 and 16-duct size. Chas. E. Phelps, Jr., Ch. Engr. Electrical Comn.

DUMP CARS.—New York, N. Y.—The U. S. engineer, Army Bldg., New York, received the following bids, Jan. 27, for furnishing the government with six rotary dump cars, 36-in. gage, with three cubic yards capacity each; the specifications calling for delivery of same alongside the engineer's wharf at Fort Hamilton: John Claffy's Sons, $85 each; Manning, Maxwell & Moore, $86 each; the Bloomburg Power Mfg. Co., $70 each; Fox Bros. Co., $79 each; Ryan-McDonald Mfg. Co., $54 each; Leonard McCoy, $85.90 each; Cornell, Underhill & Boyd, $70 each.

TUNNEL.—Santa Barbara, Cal.—Alphonse Crane, Cy. Clk., writes us that the contract for extending the water tunnel 500 ft. has been let to Christ de Lorenzi, Santa Barbara, at $10 a lin. ft. The only other bid was submitted by S. Genta, Santa Barbara, at $11.75.

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